

FIG. 1A PRIOR ART

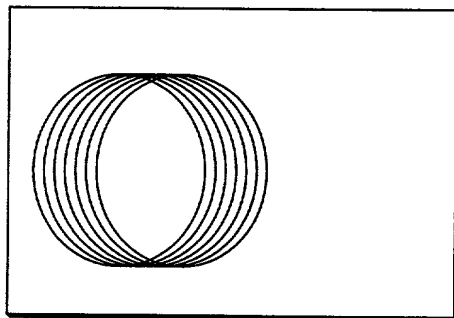


FIG. 1B PRIOR ART

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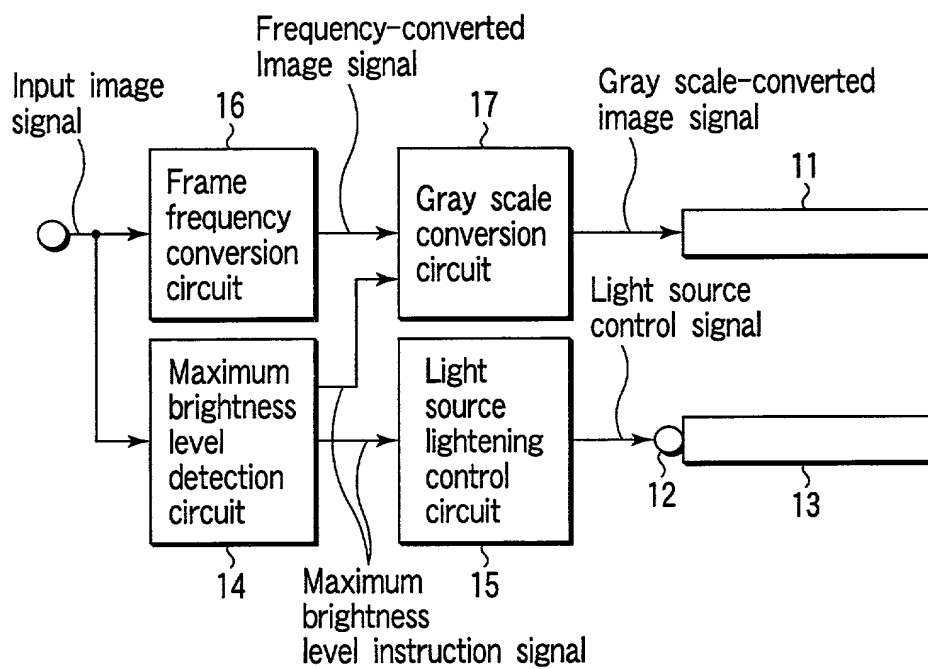


FIG. 2

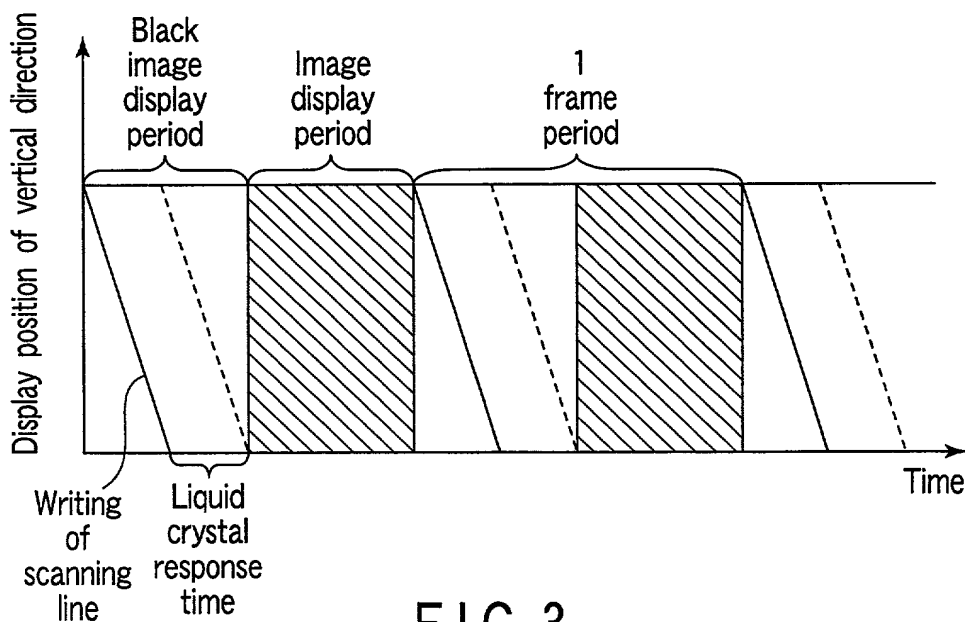


FIG. 3

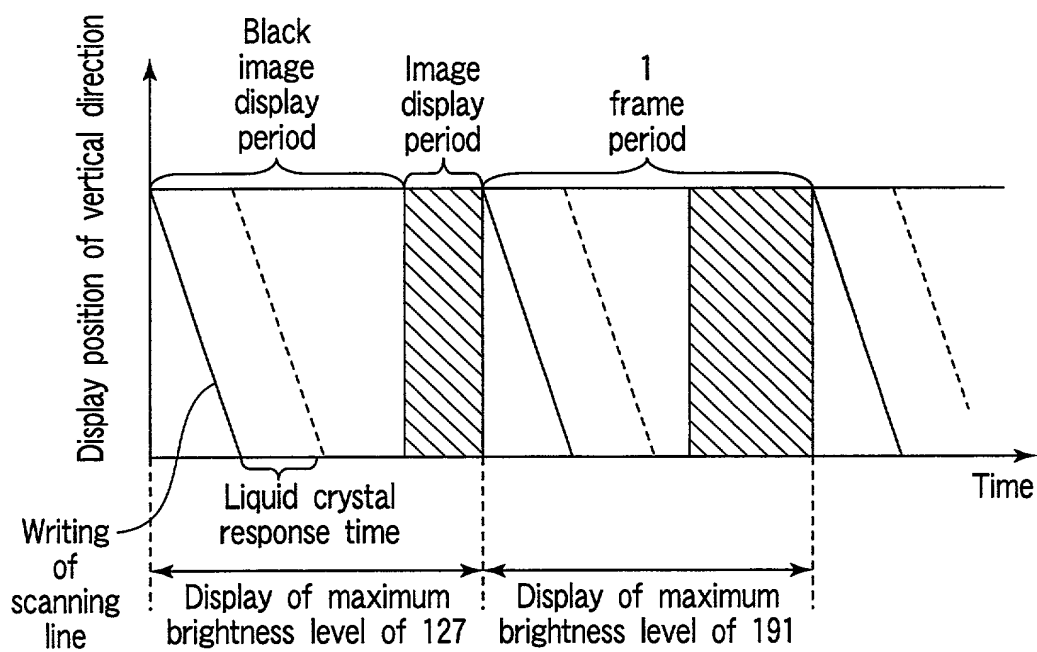


FIG. 4

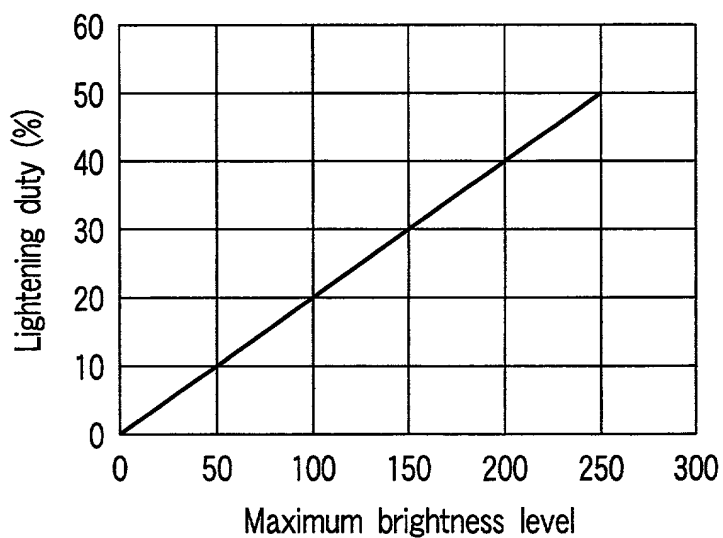


FIG. 5

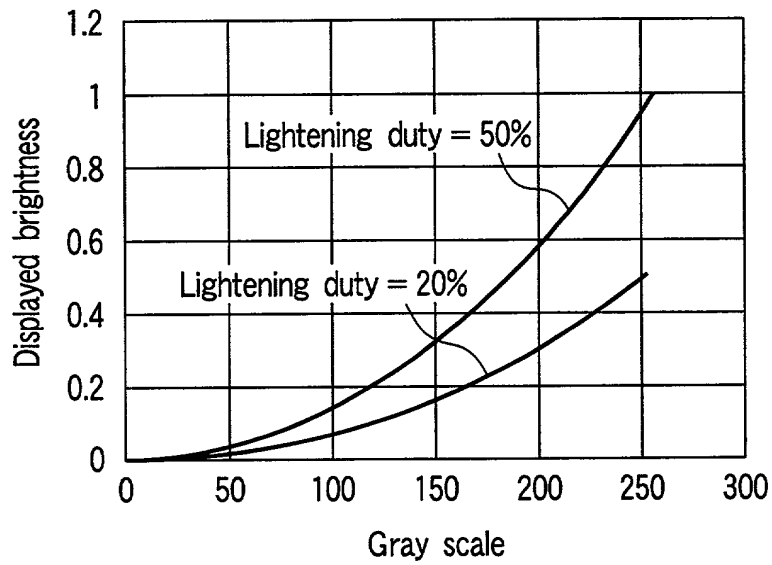


FIG. 6

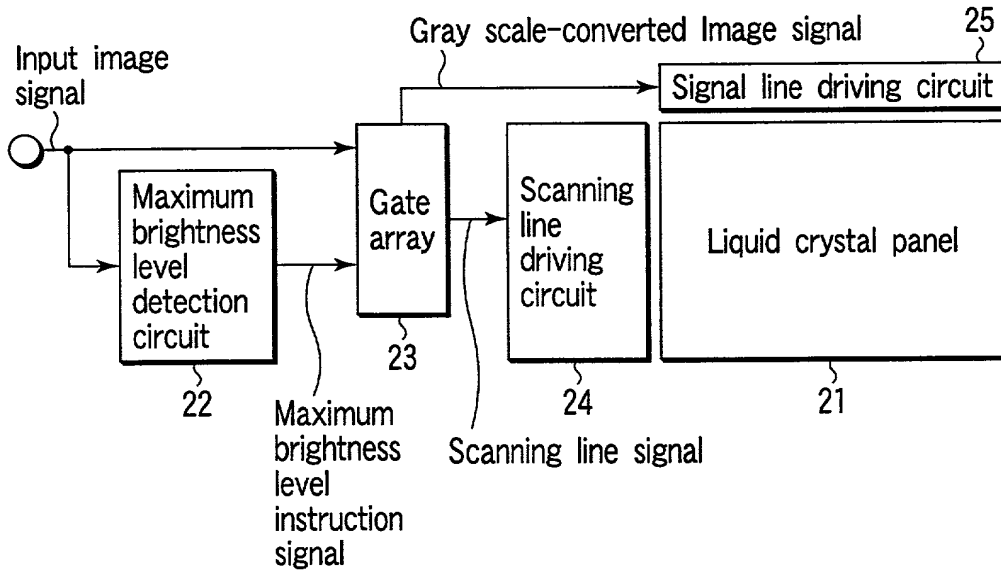


FIG. 7

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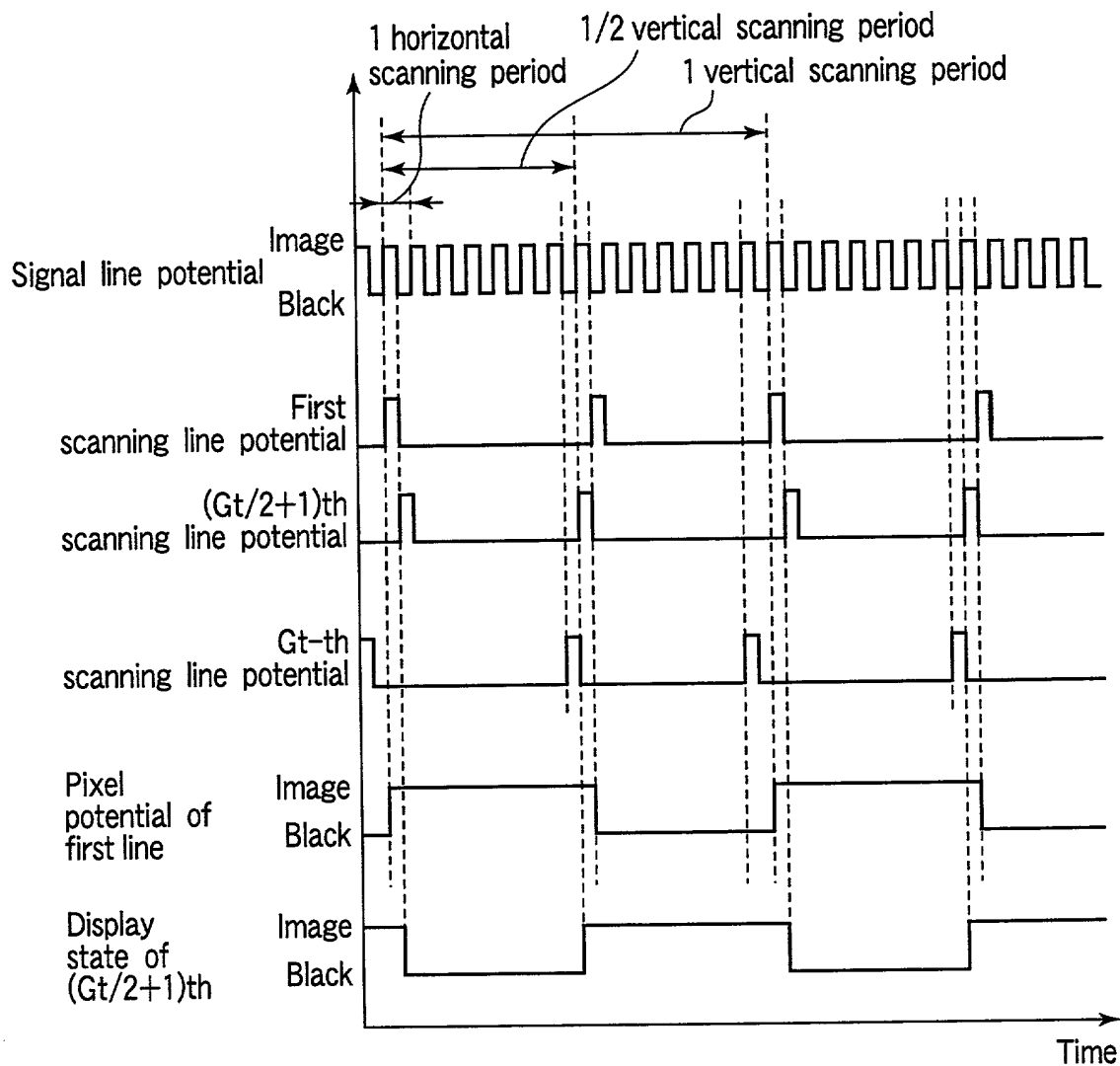


FIG. 8

FIG. 9A

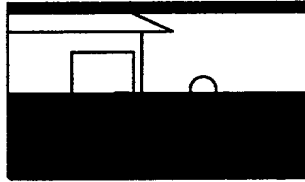
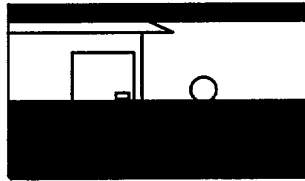


FIG. 9B



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FIG. 9C

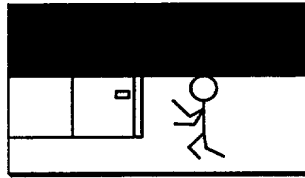
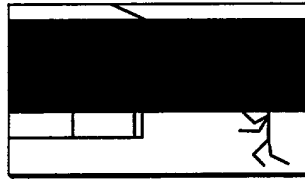
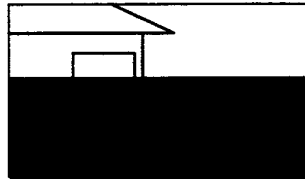


FIG. 9D



...

FIG. 9E



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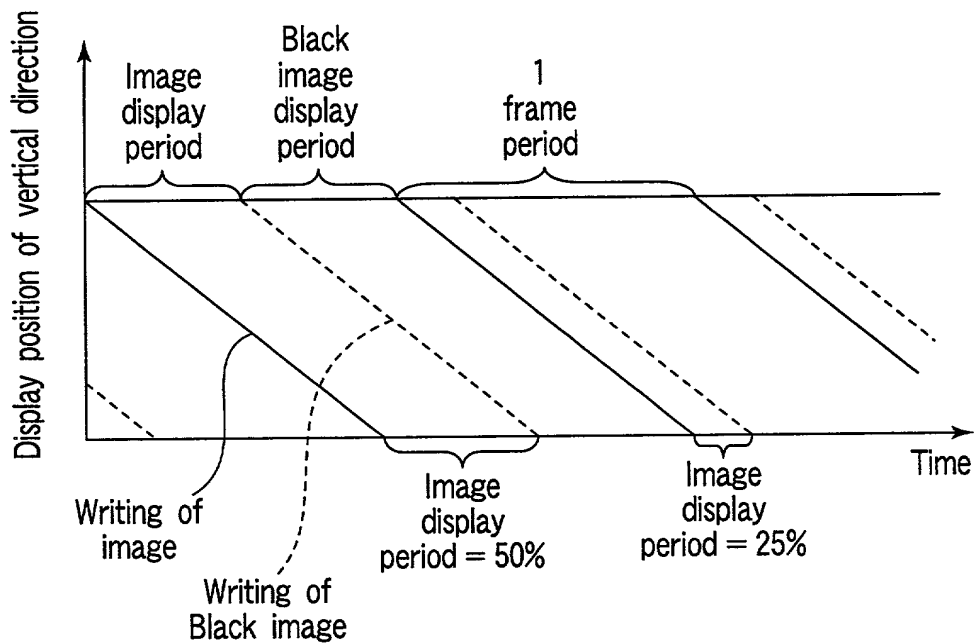


FIG. 10

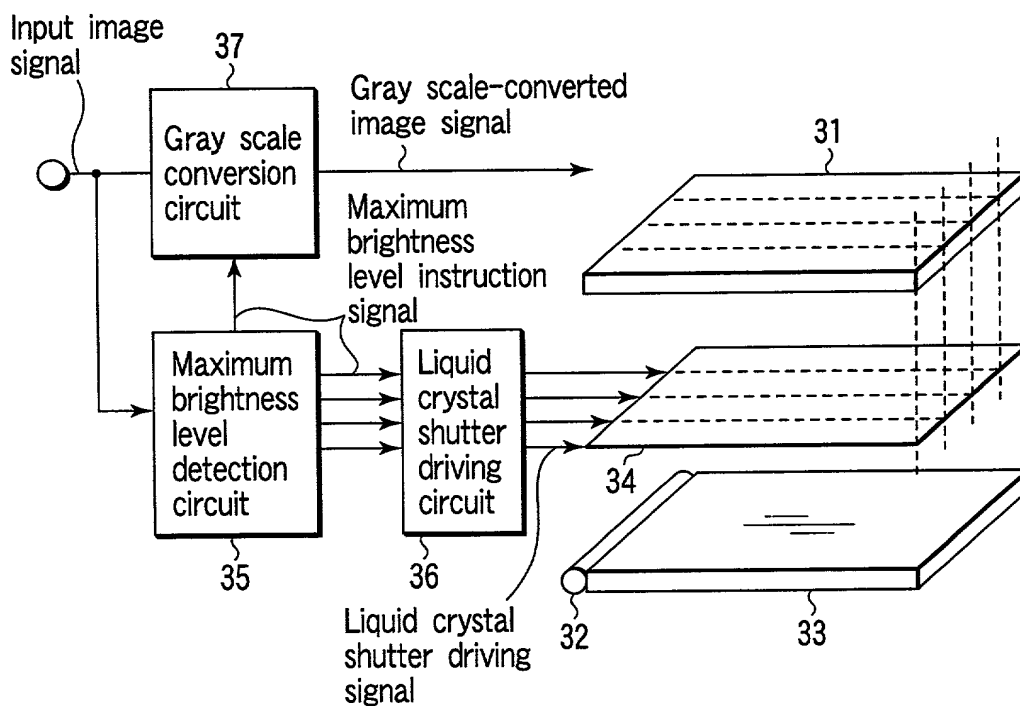


FIG. 30

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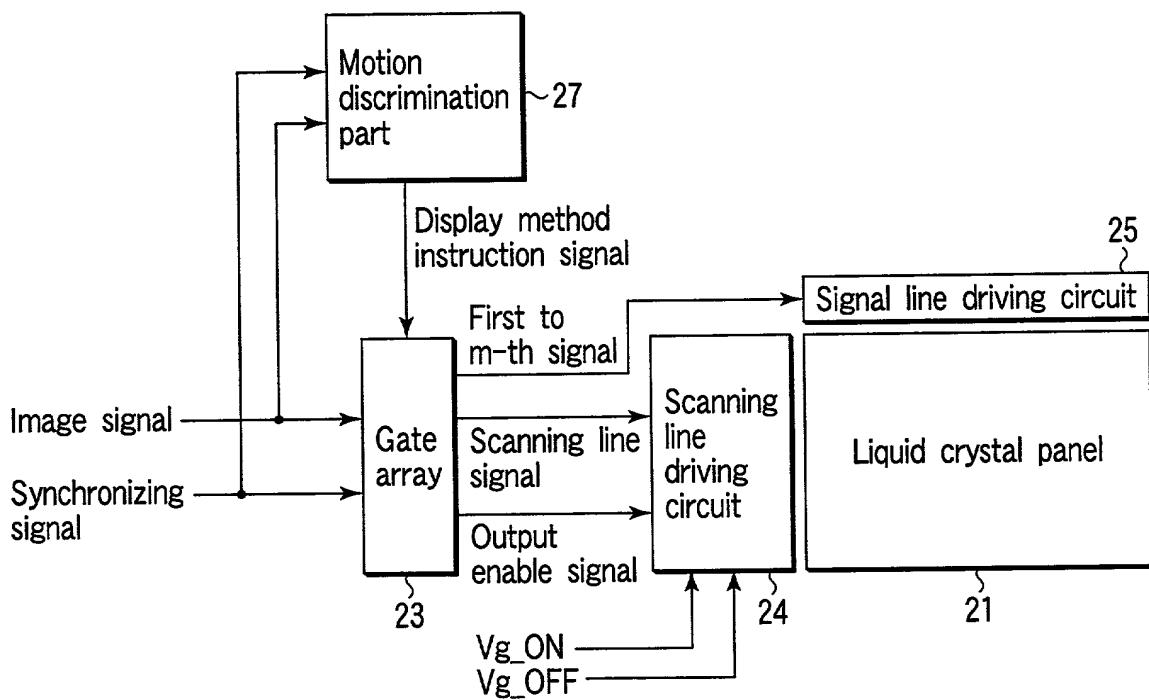


FIG. 11

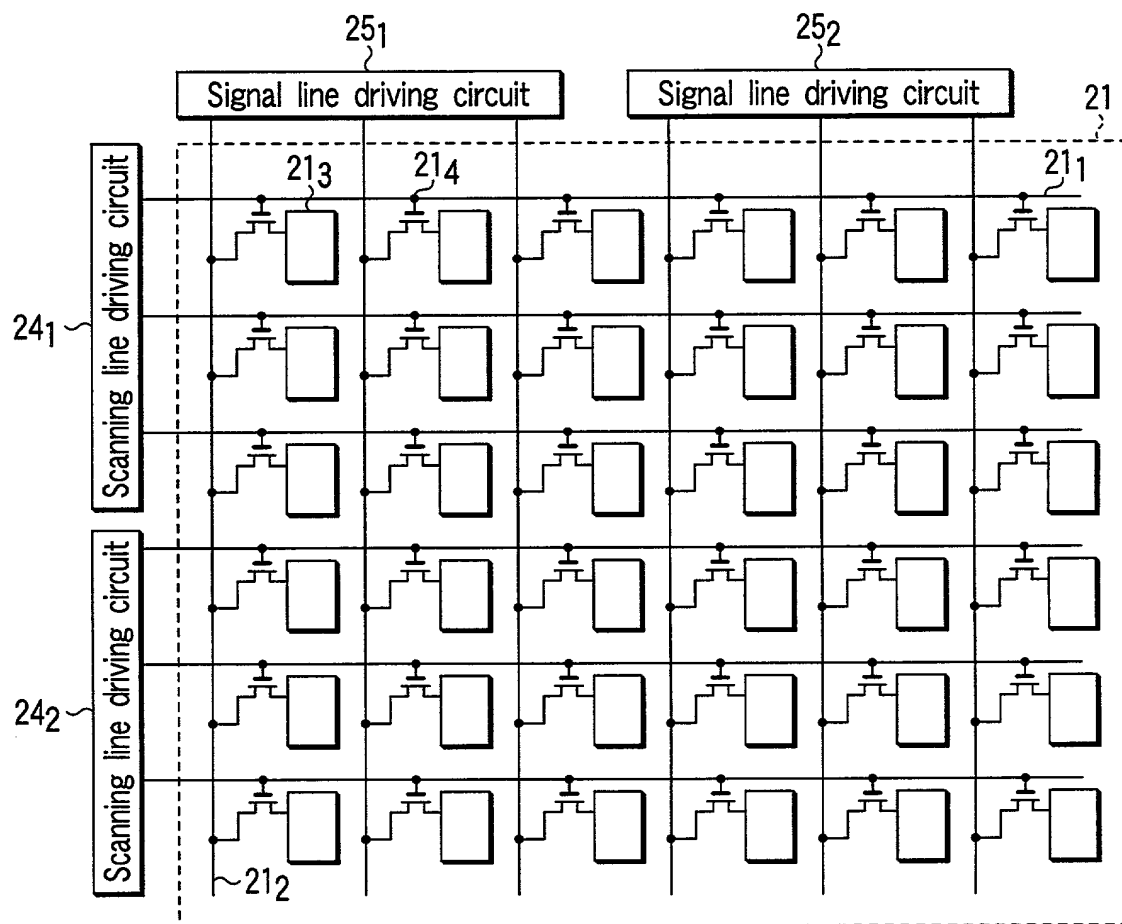


FIG. 12



Negative voltage

FIG. 13A



No-voltage

FIG. 13B



Positive voltage

FIG. 13C

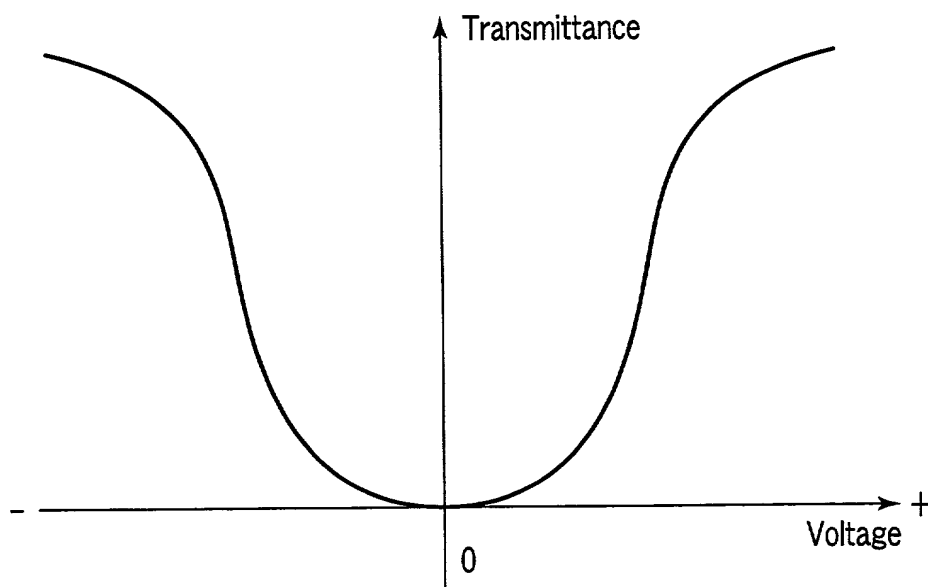


FIG. 14

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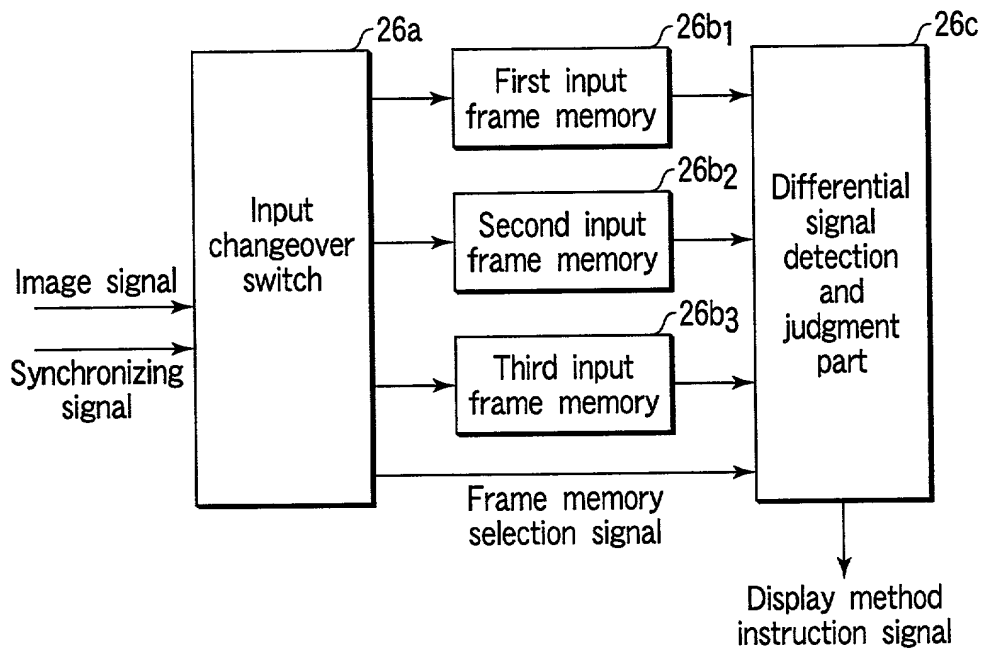


FIG. 15

FIG. 16A

FIG. 16B

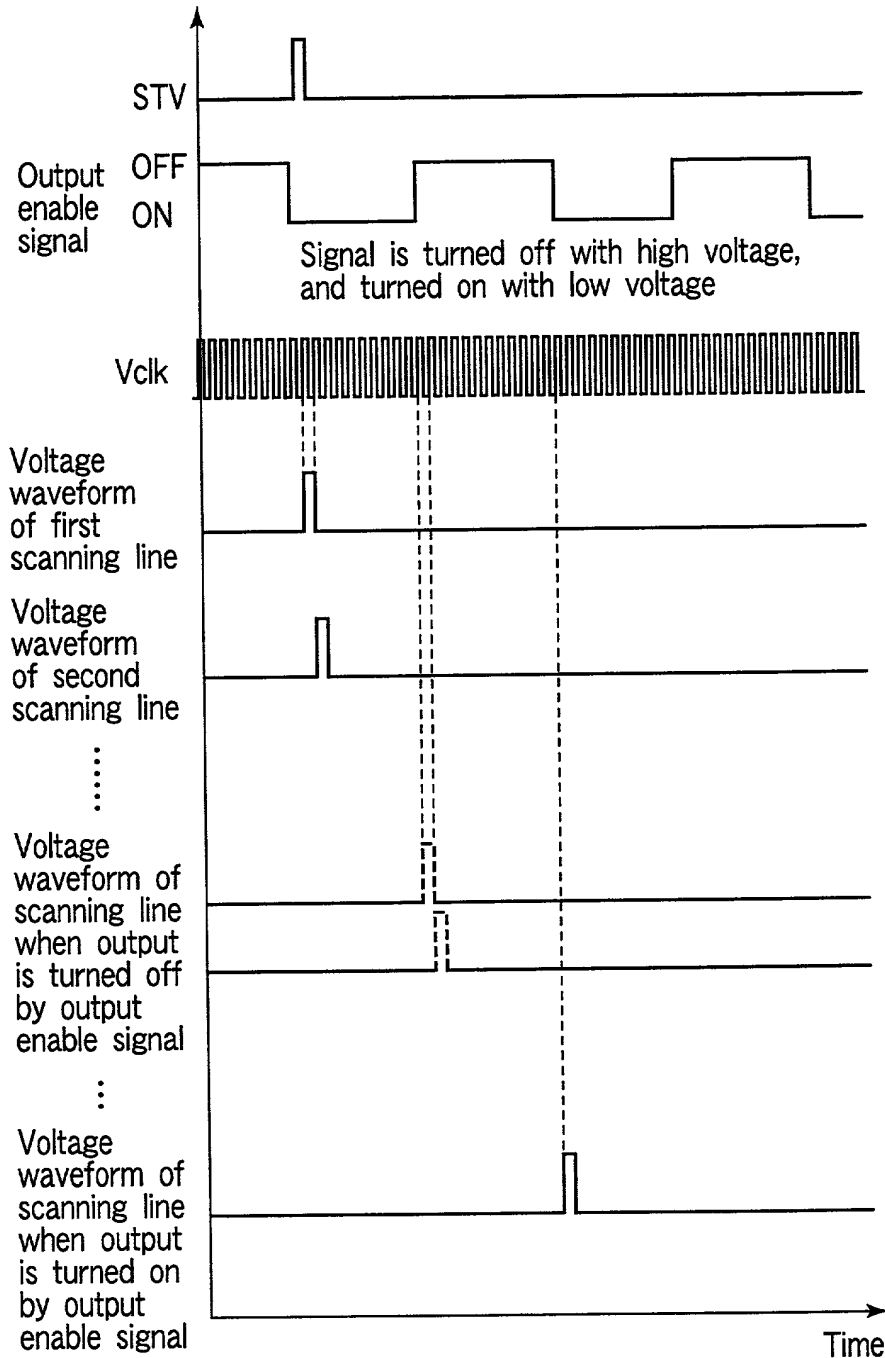
FIG. 16C

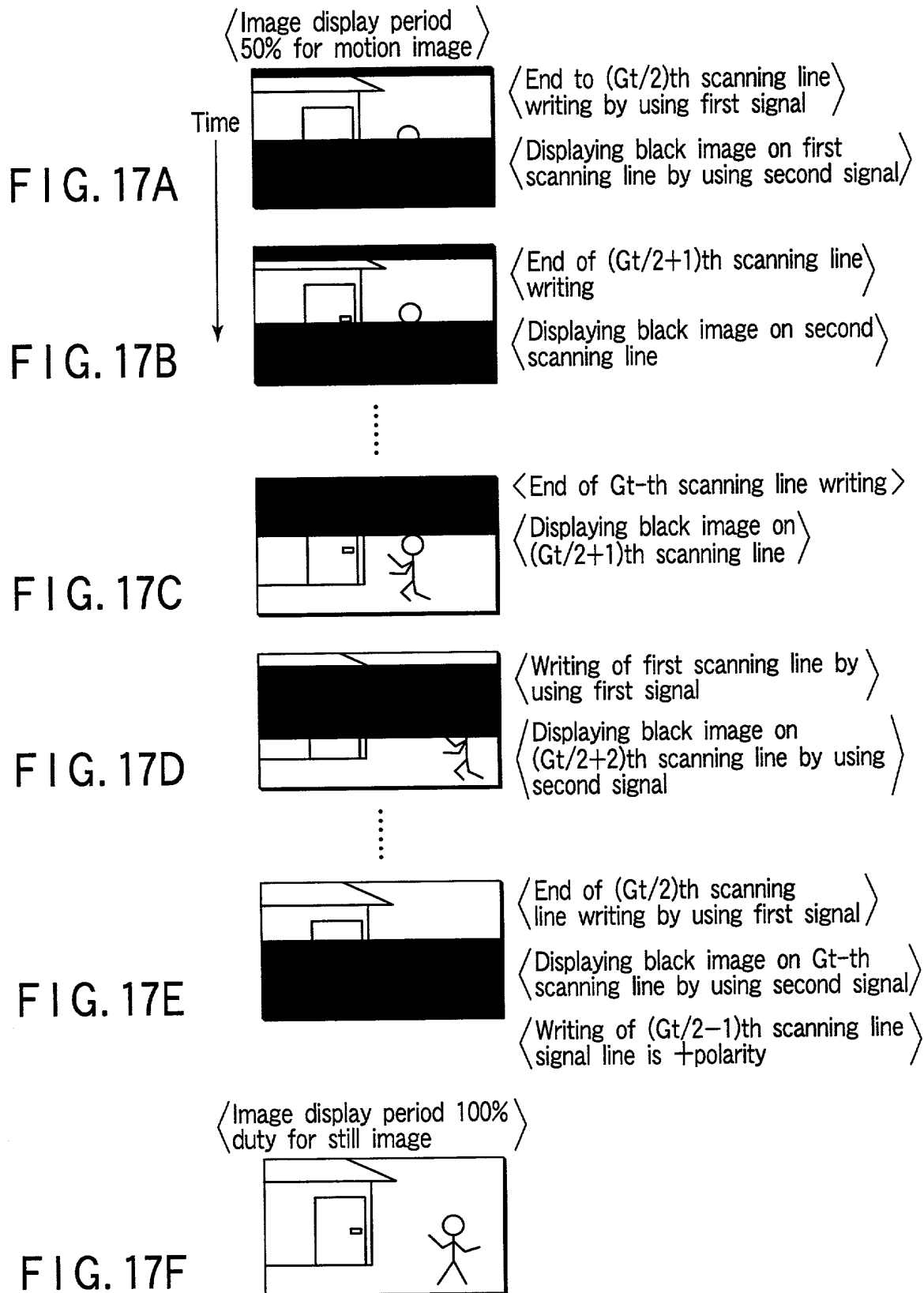
FIG. 16D

FIG. 16E

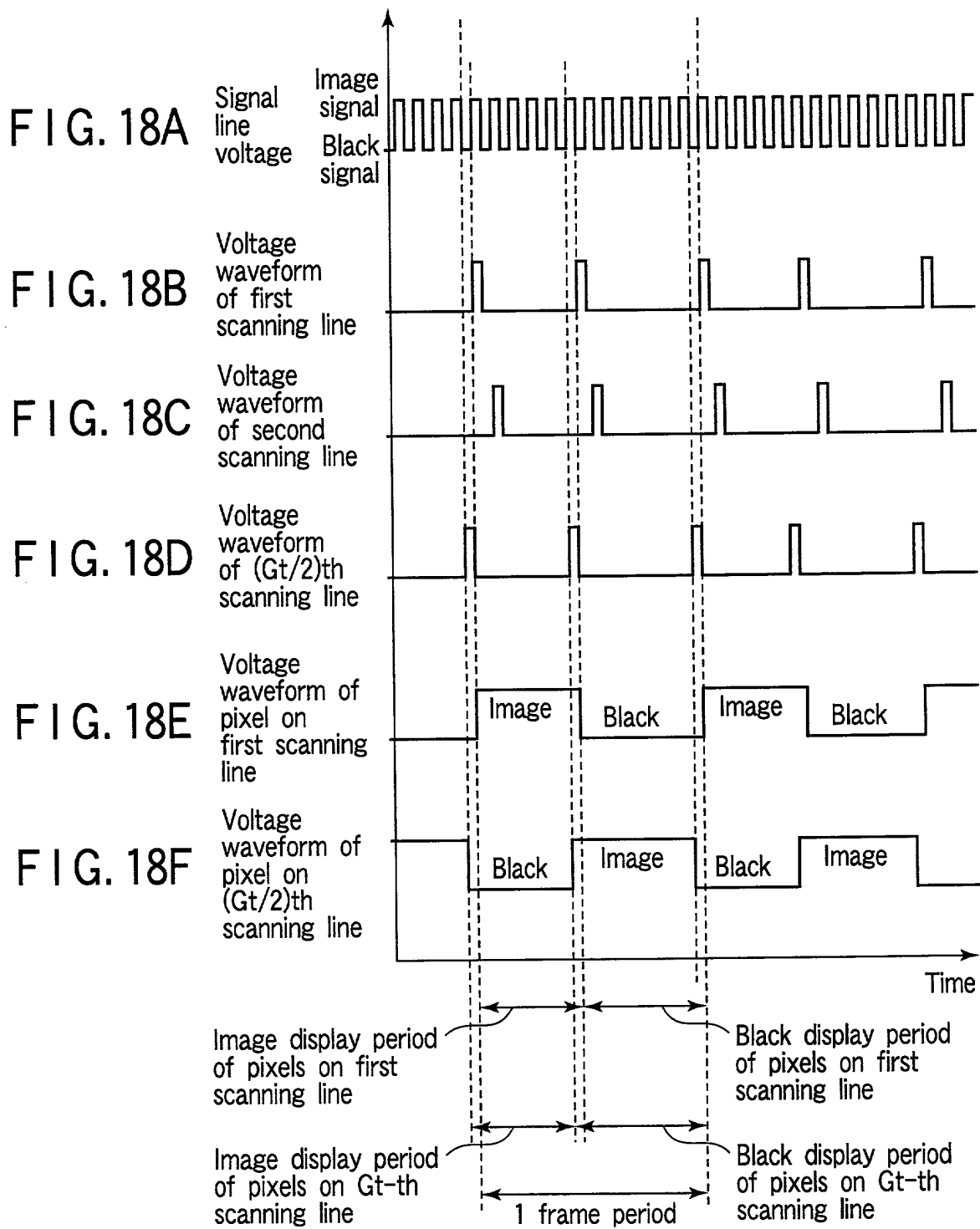
FIG. 16F

FIG. 16G





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Relation between number of scanning lines,
adjustment accuracy, and minimum duty

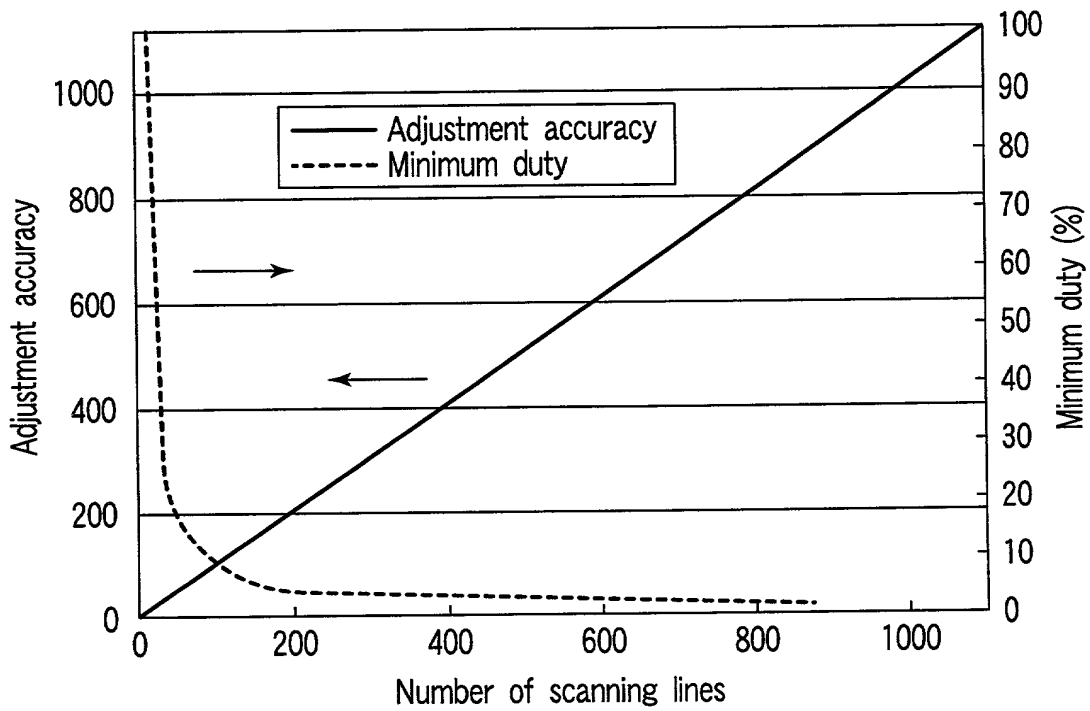
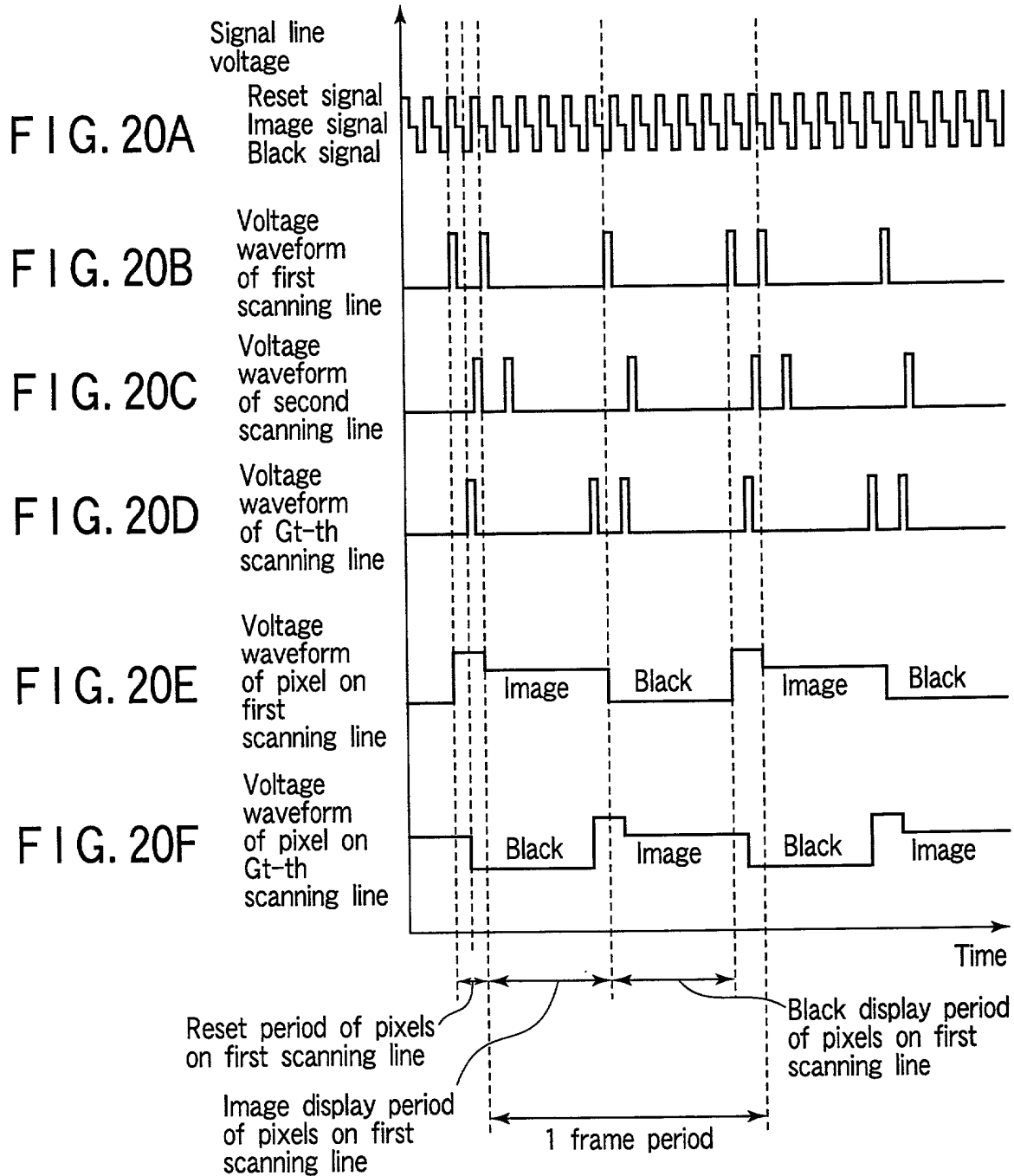
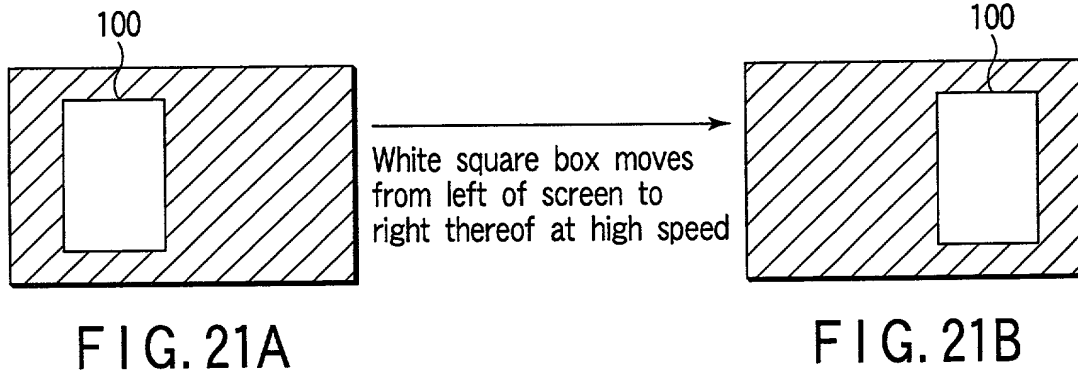


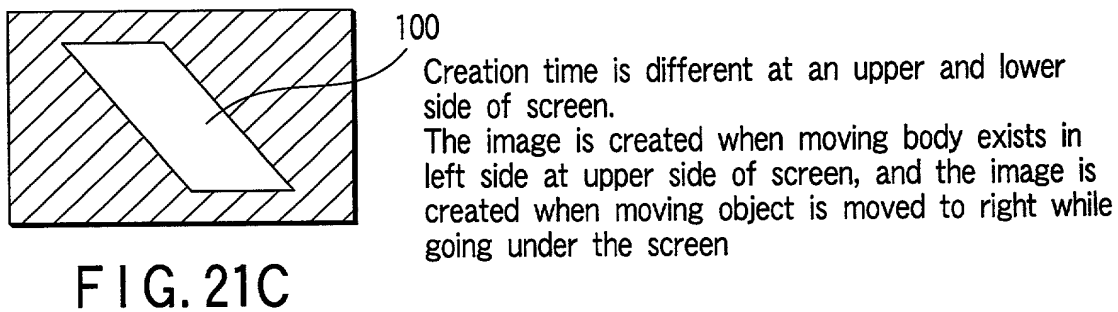
FIG. 19



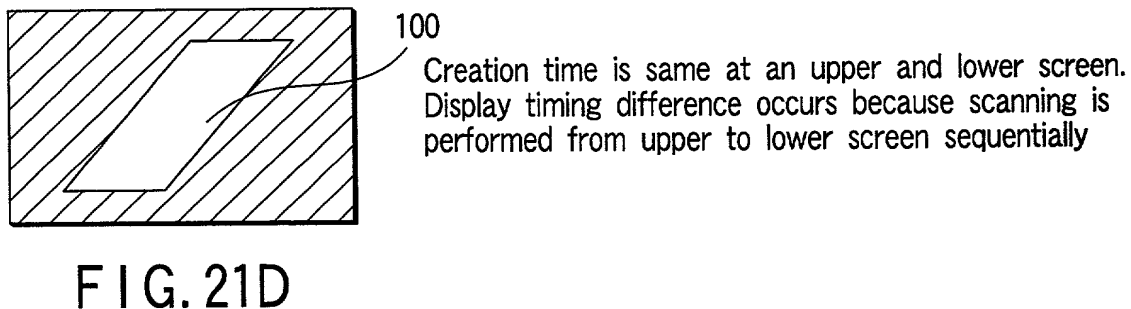
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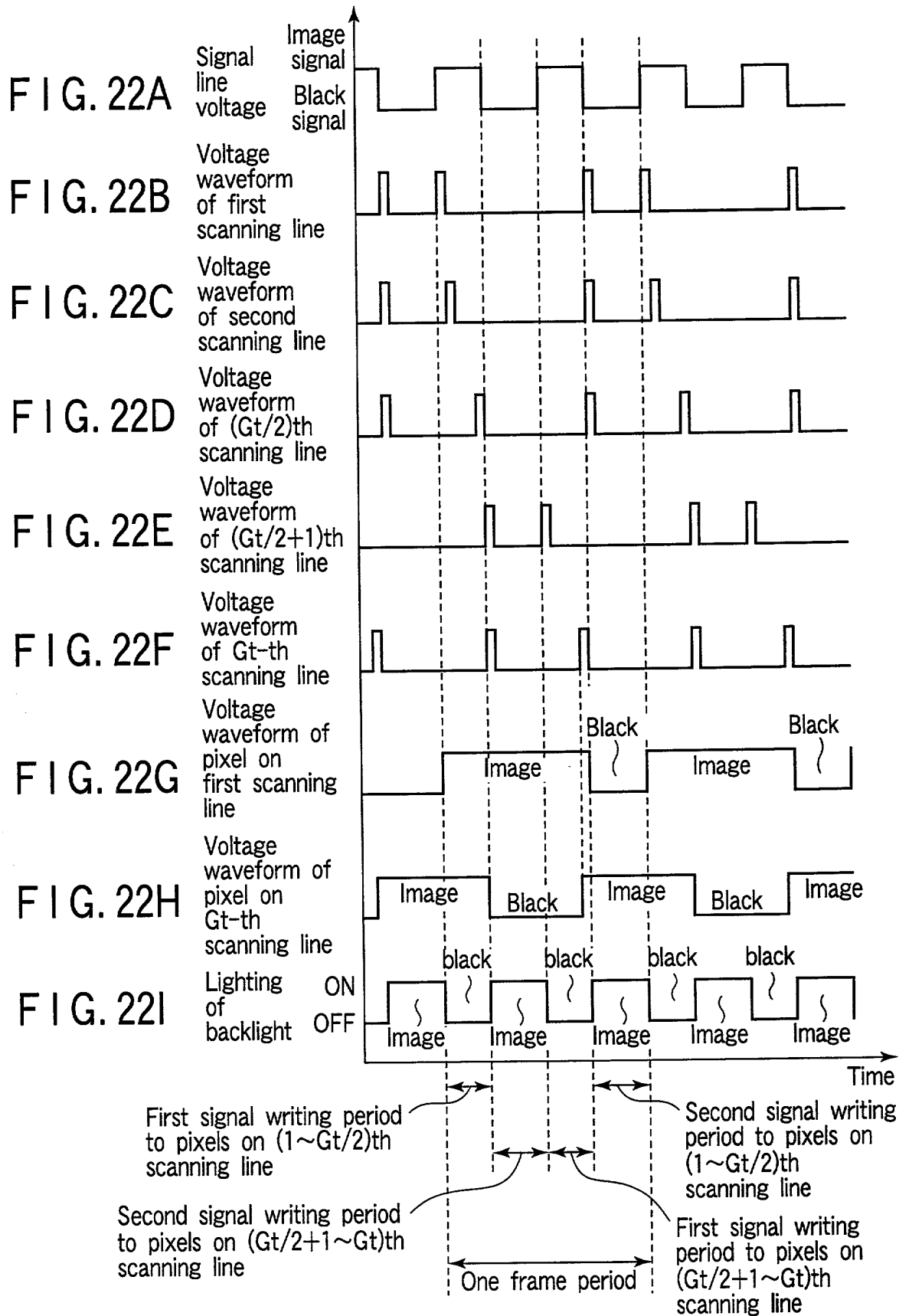
Line sequential processing
when creating screen and
plane sequential processing
when displaying image



plane sequential processing
when creating screen and
line sequential processing
when displaying image



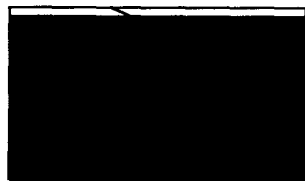
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FIG. 23A

<First sub-field>

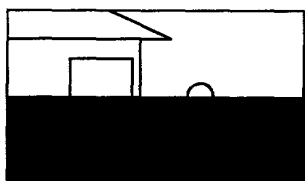


<Writing first signal to pixels on
first to $Gt/2$ -th scanning lines>

<black display for backlight OFF>

FIG. 23B

<Second sub-field>



<Writing end of first signal to pixels
on first to $Gt/2$ -th scanning lines>

<Writing black display signal to pixels
on $(Gt/2+1)$ th to Gt -th scanning
lines>

<Backlight is turned on and imaged
is displayed>

FIG. 23C

<Third sub-field>

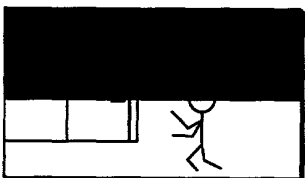


<Writing first signal to pixel on
 $(Gt/2+1)$ th to Gt -th scanning lines>

<black display for backlight OFF>

FIG. 23D

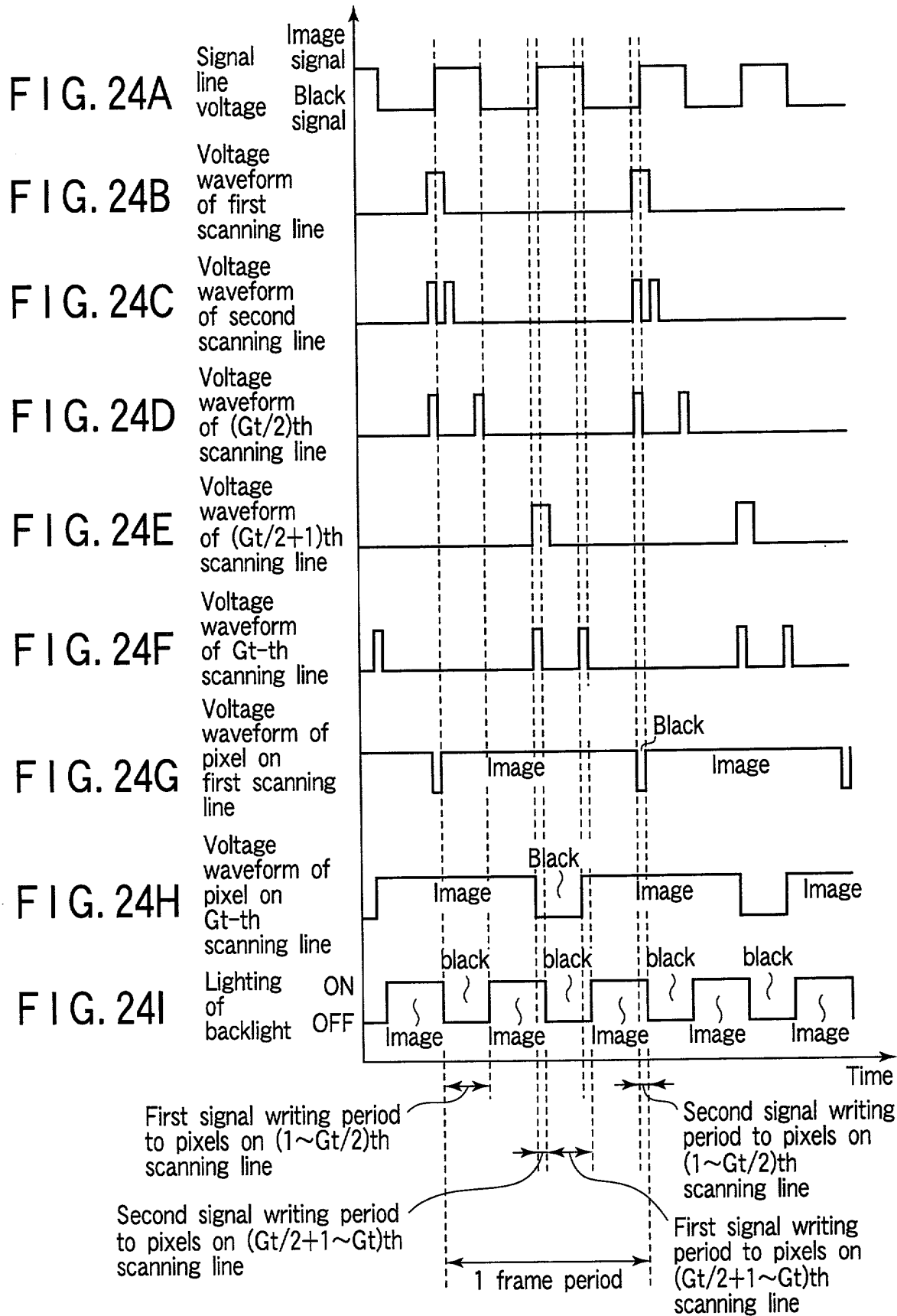
<Fourth sub-field>



<Writing end of first signal to pixels
on $(Gt/2+1)$ th to Gt -th scanning
lines>

<Writing black display signal to pixels
on first to $Gt/2$ -th scanning lines>

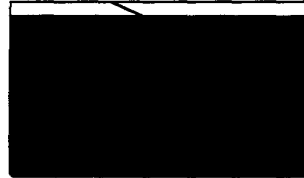
<Backlight is turned on and imaged
is displayed>



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FIG. 25A

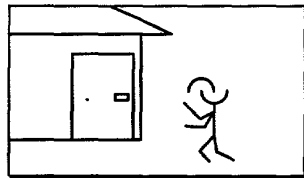
<First sub-field>



<Writing first signal to pixels on
first to $Gt/2$ -th scanning lines>
<Black display for backlight OFF>

FIG. 25B

<Second sub-field>

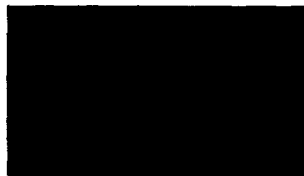


<Writing end of first signal to pixels
on first to $Gt/2$ -th scanning lines>
<Image is displayed by turning on
backlight>

There is a slight time gap between
image on $(Gt/2+1)$ th to Gt -th
scanning lines and image on first to
 $Gt/2$ -th scanning lines because
image on $(Gt/2+1)$ th to Gt -th
scanning lines is at previous frame
image

FIG. 25C

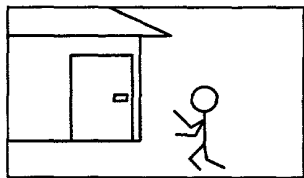
<Third sub-field>



<Writing first signal to pixel on
 $(Gt/2+1)$ th to Gt -th scanning
lines>
<Black display for backlight OFF>

FIG. 25D

<Fourth sub-field>



<Writing end of first signal to pixels
on $(Gt/2+1)$ th to Gt -th scanning
lines>
<Backlight is turned on and imaged
is displayed>

There is no time gap between
image on $(Gt/2+1)$ th to Gt -th
scanning lines and image on first to
 $Gt/2$ -th scanning lines because
image on $(Gt/2+1)$ th to Gt -th
scanning lines is at same frame
image as on first to $Gt/2$ -th
scanning lines

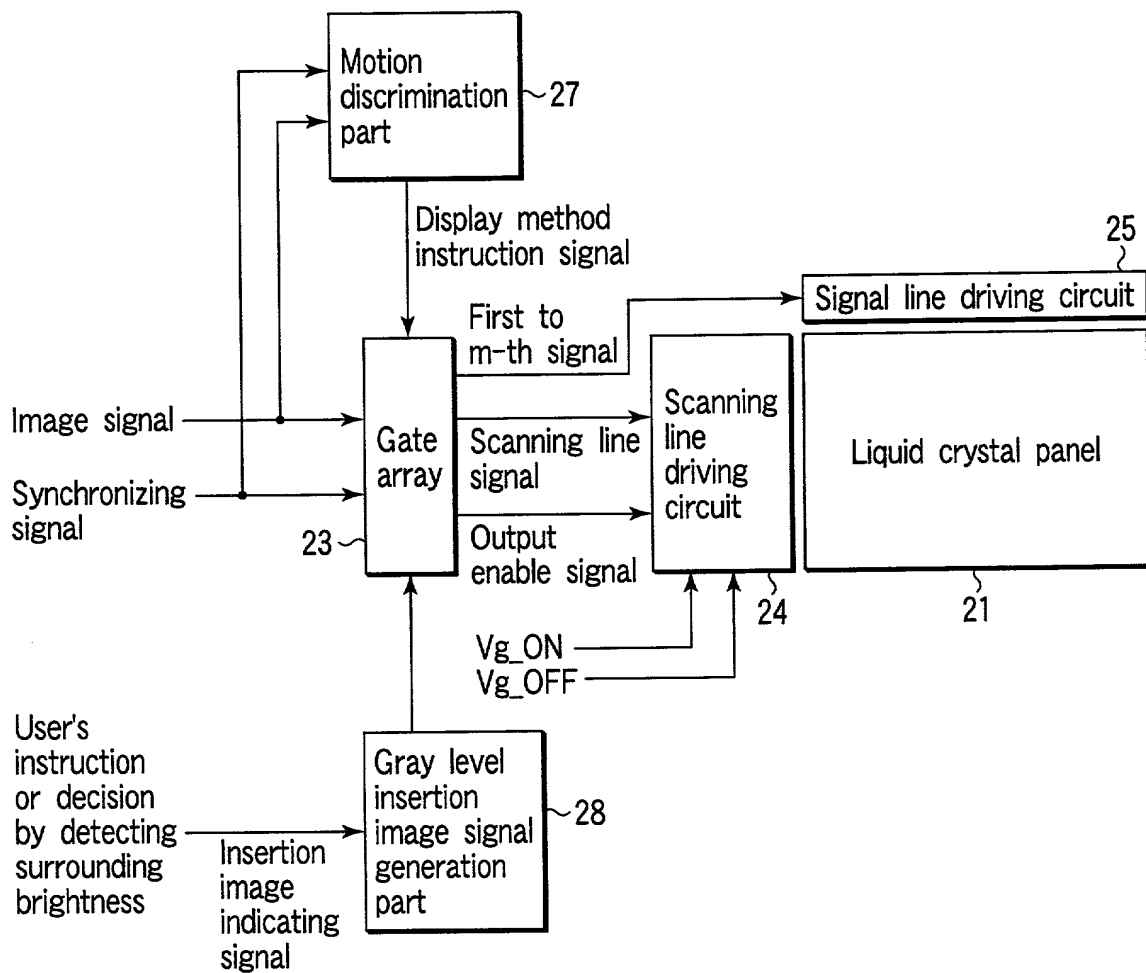


FIG. 26

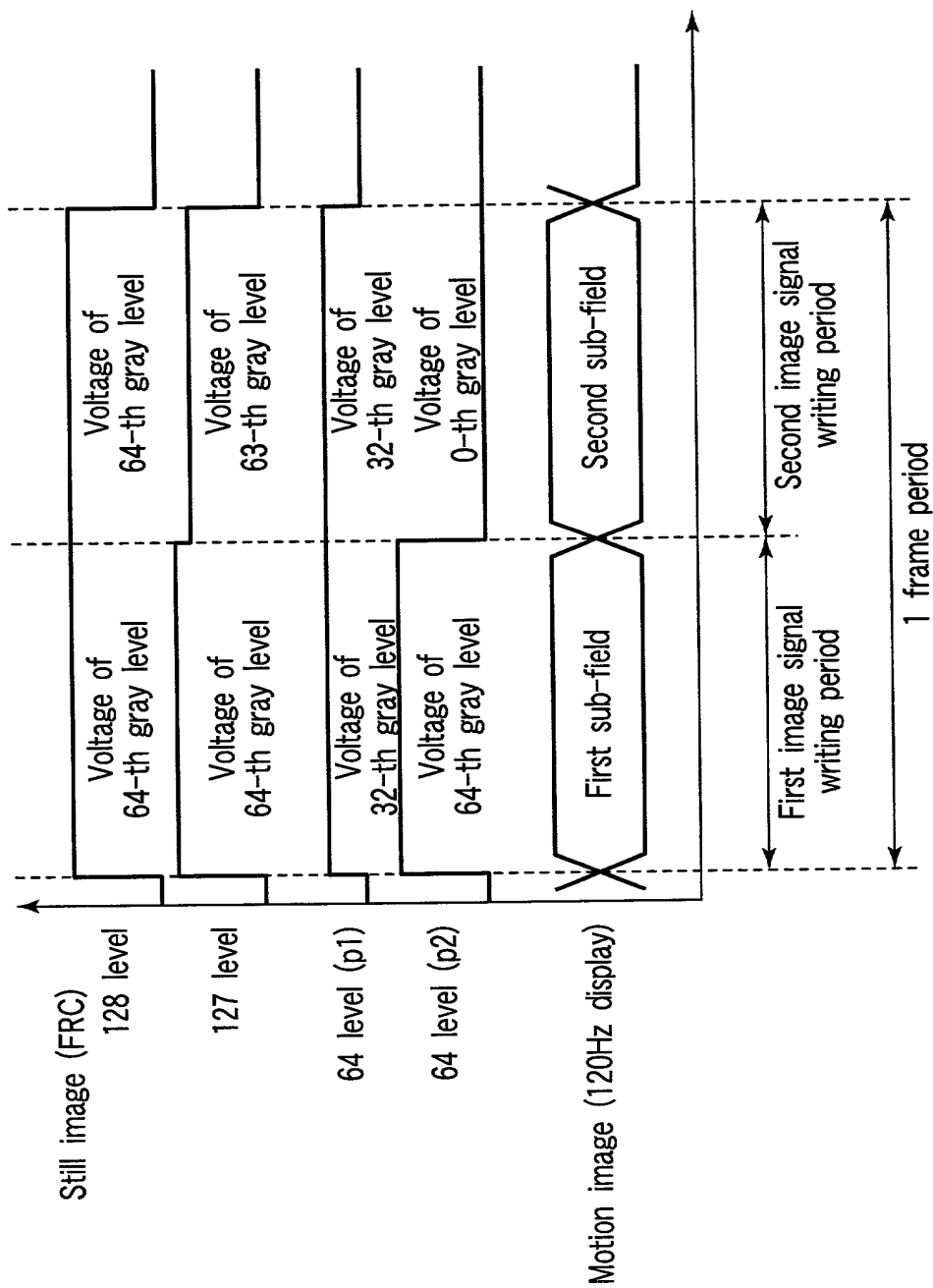


FIG. 27

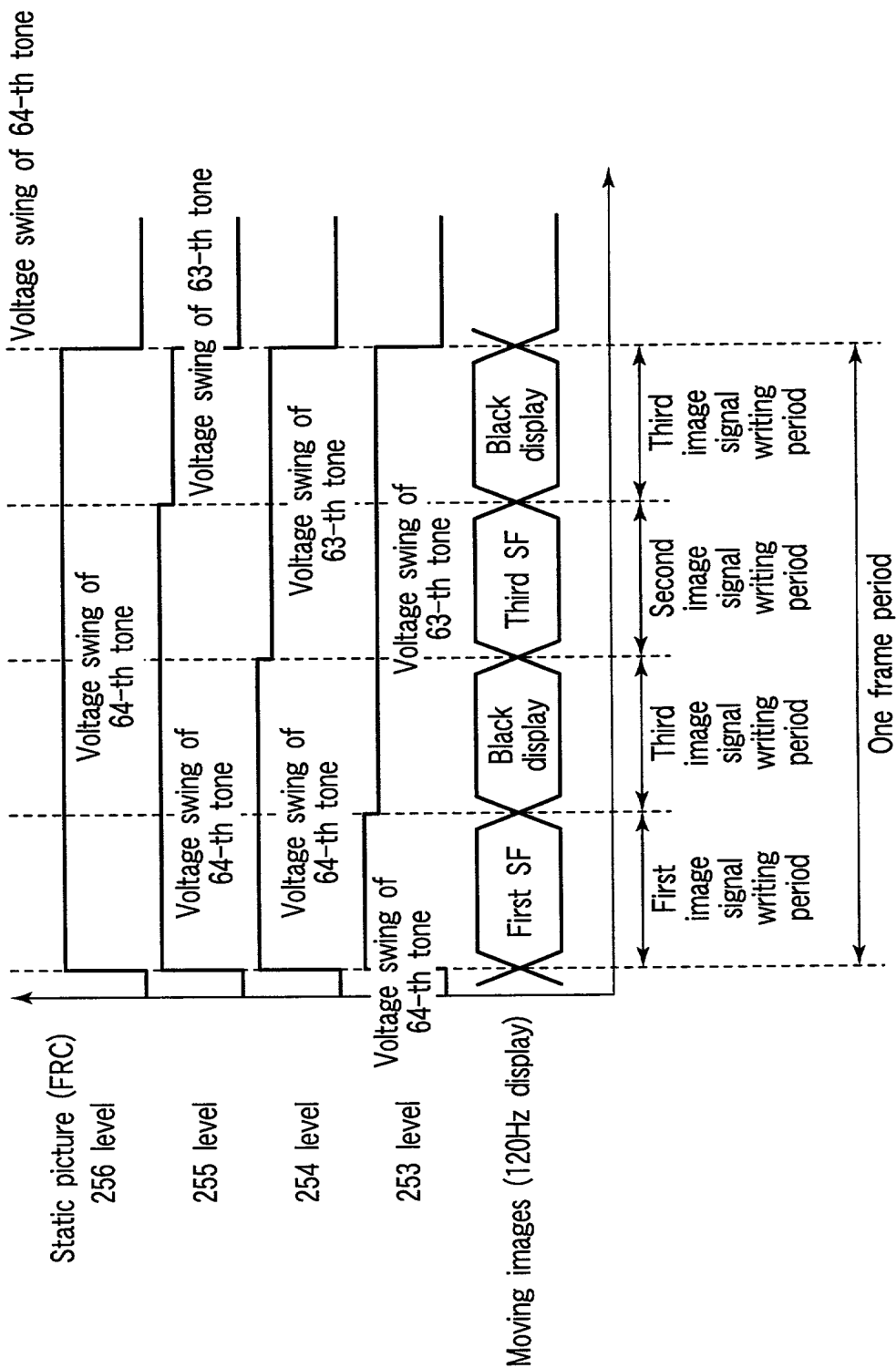


FIG. 28

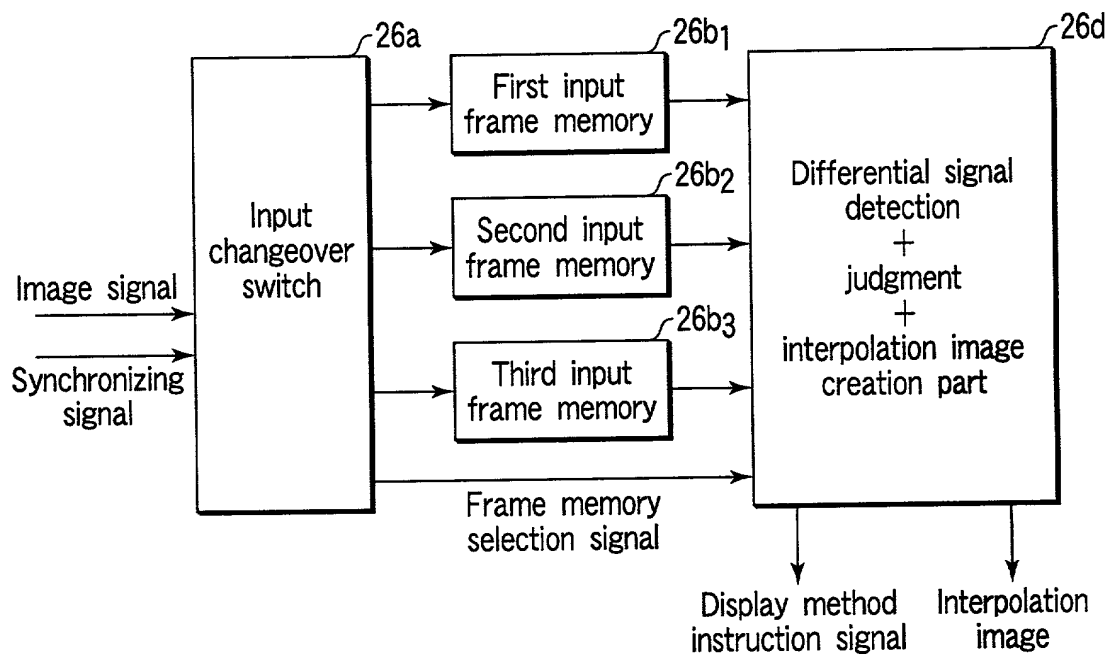


FIG. 29

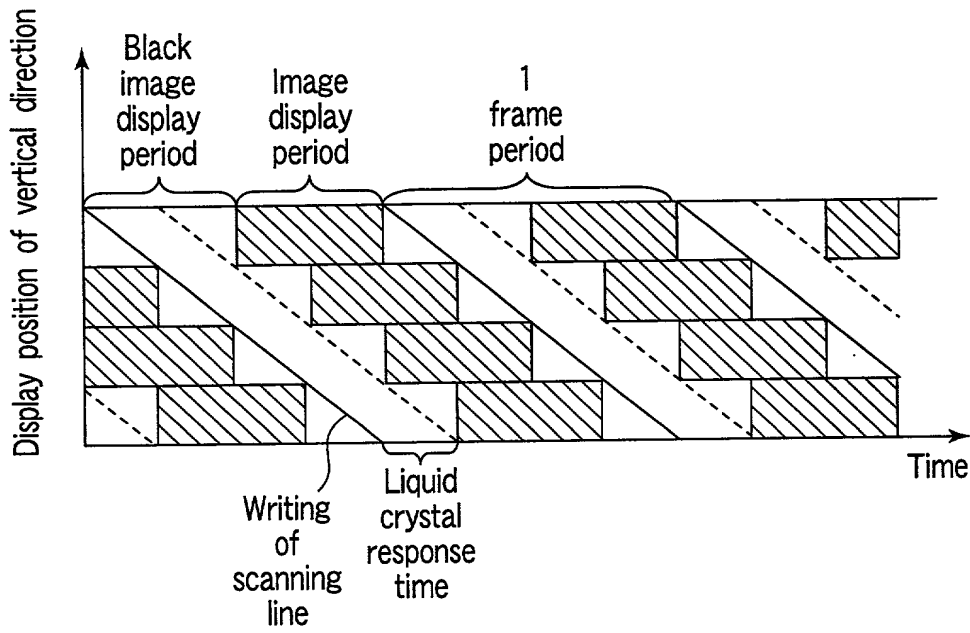


FIG. 31

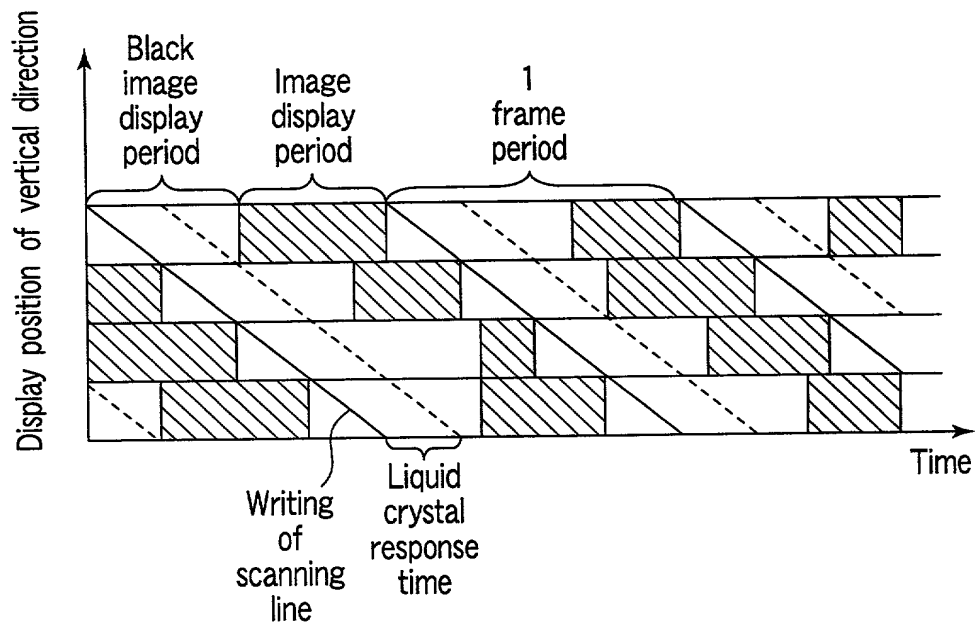


FIG. 32

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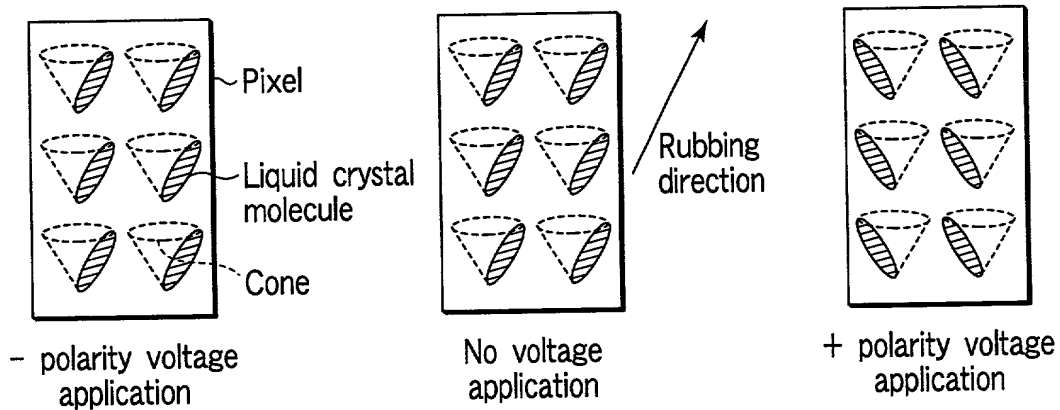


FIG. 33A

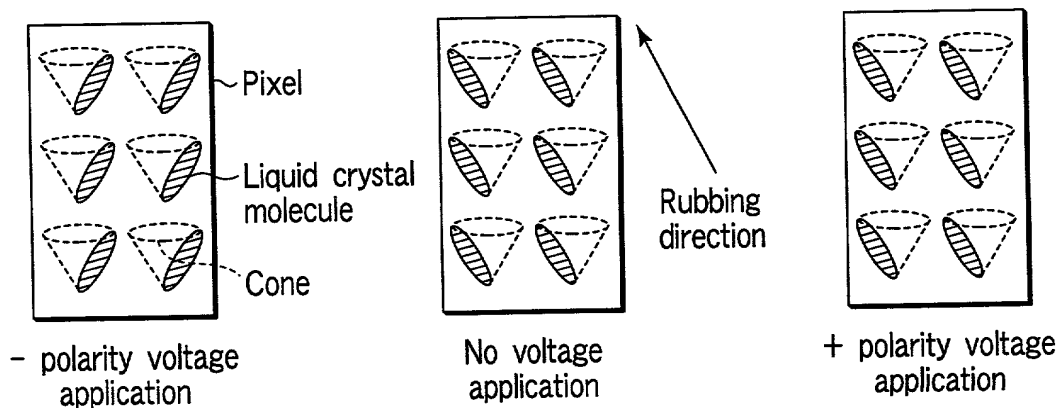
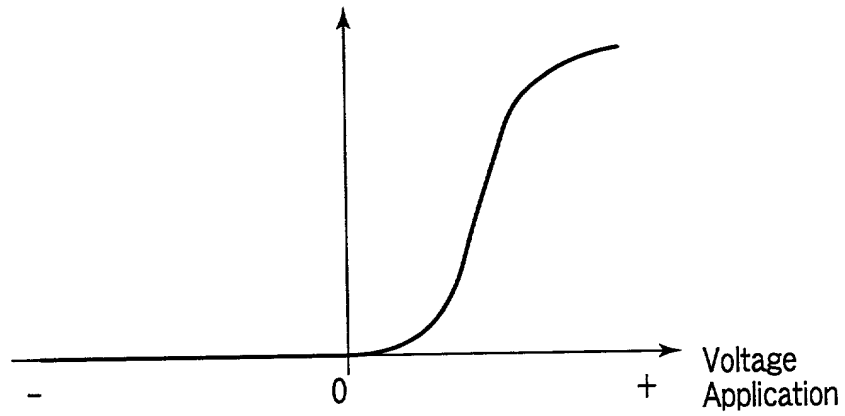
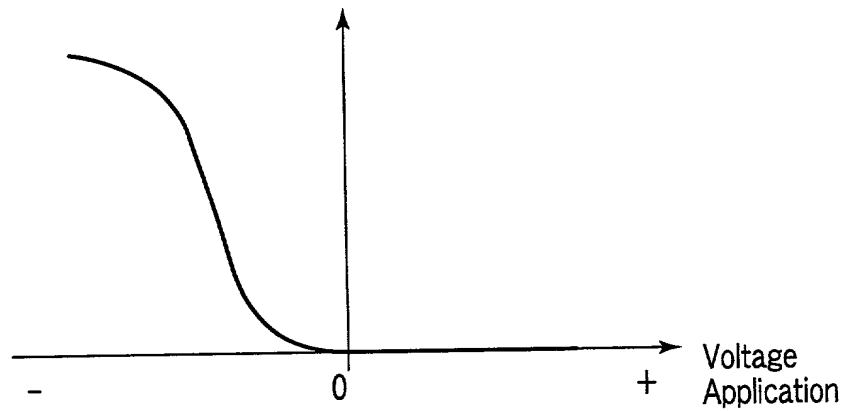


FIG. 33B



First alignment

FIG. 34A



Second alignment

FIG. 34B

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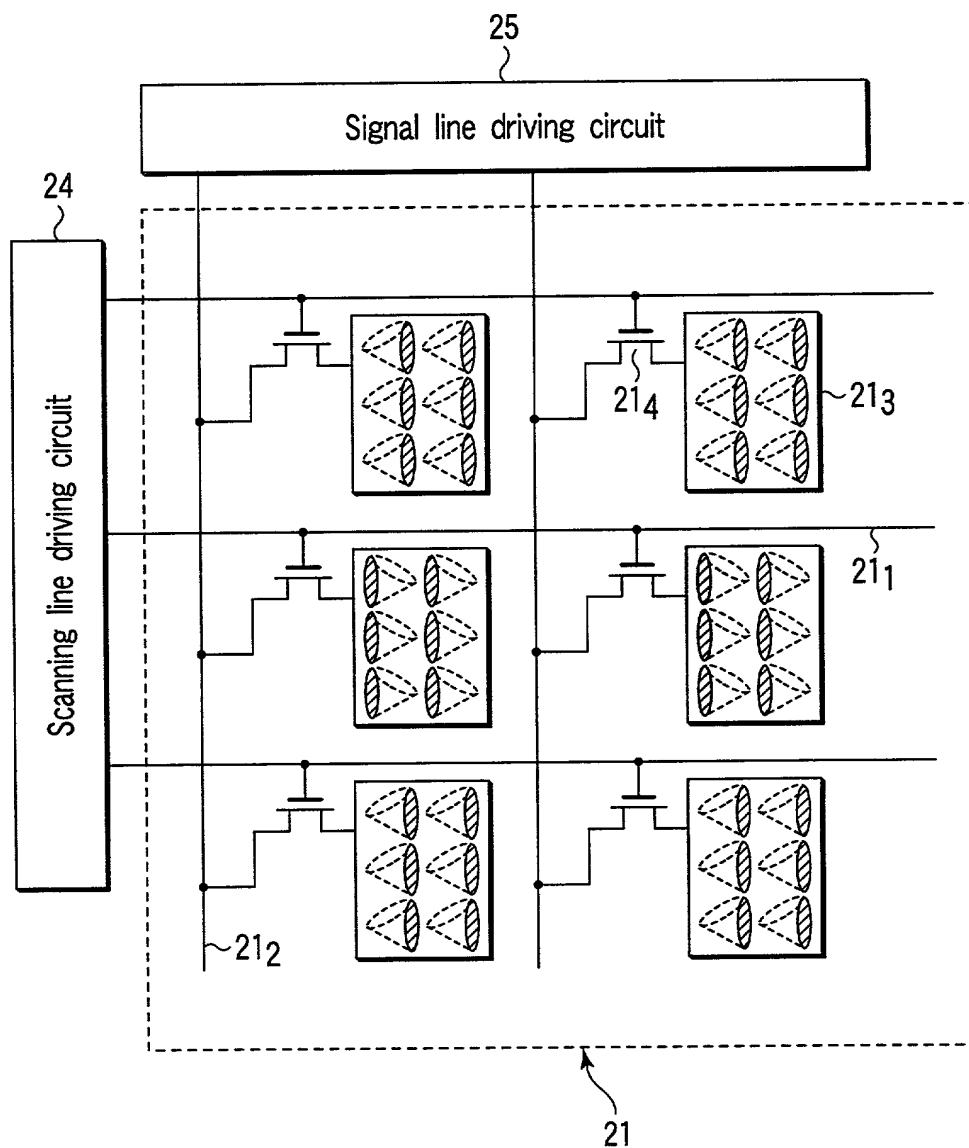


FIG. 35

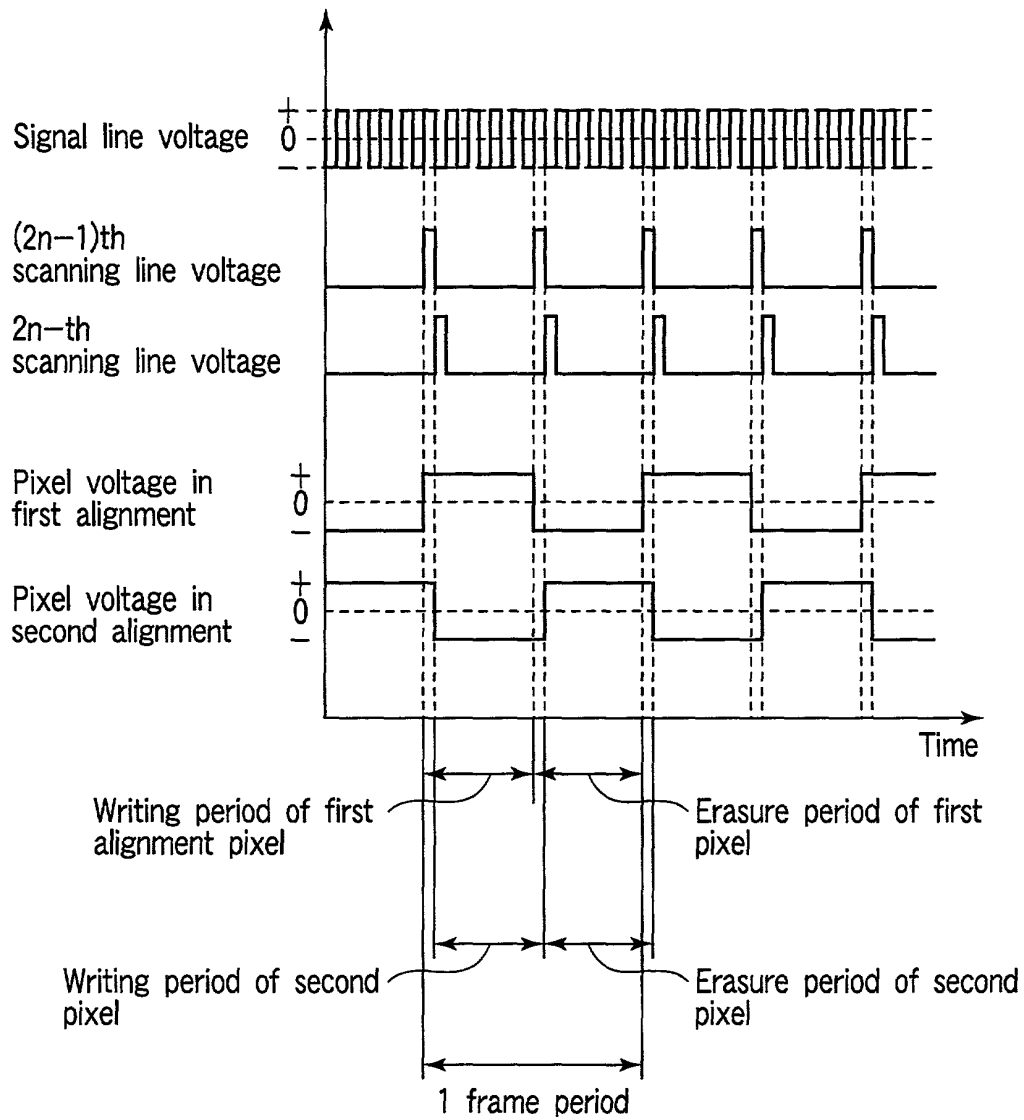
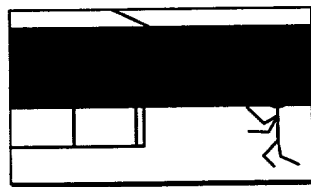


FIG. 36

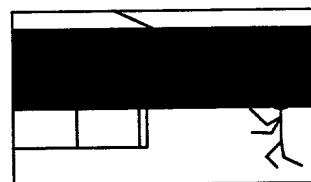
FIG. 37A



Writing of First scanning line;
signal is + polarity

First scanning line is in first and can be written in + polarity. Image of previous field remains at lower side of screen

FIG. 37B



Writing of Second scanning line;
signal is - polarity

Second scanning line is in second and can be written in - polarity

Time
↓

FIG. 37C

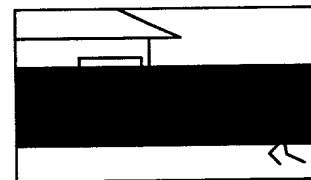
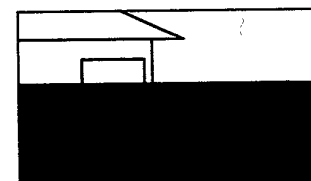


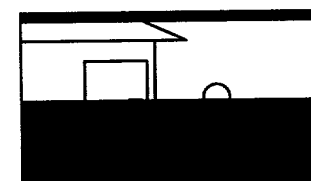
FIG. 37D



Writing of (T/2-1)th scanning line;
signal is + polarity

End of writing to upper half

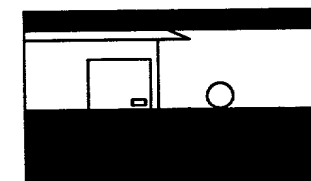
FIG. 37E



Writing of T/2-th scanning line;
signal is - polarity

First scanning line is turned on at same time. T/2-th scanning line is written in - polarity, and first scanning line is erased by - polarity

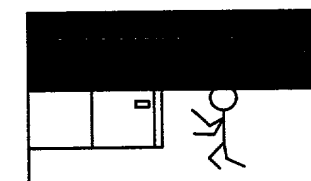
FIG. 37F



Writing of (T/2+1)th scanning line;
signal is + polarity

Second scanning line is turned on at same time. (T/2+1)th scanning line is written in + polarity, and second scanning line is erased by + polarity

FIG. 37G

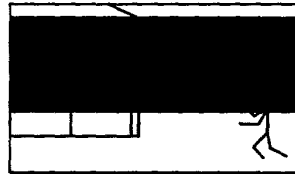


Writing of T-th scanning line;
signal is - polarity

(T/2+1)th scanning line is turned on at same time. Upper half of screen is erased

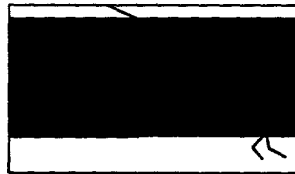
FIG. 37A

FIG. 38A



Writing of First scanning line;
signal is + polarity
Image of previous field remains at
lower quarter of screen

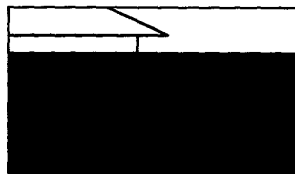
FIG. 38B



Time
↓

⋮

FIG. 38C



Writing of (T/4-1)th scanning line;
signal is + polarity
Upper quarter of screen is displayed

⋮

FIG. 38D



Writing of T/4-th scanning line;
signal is - polarity
First scanning line is erased

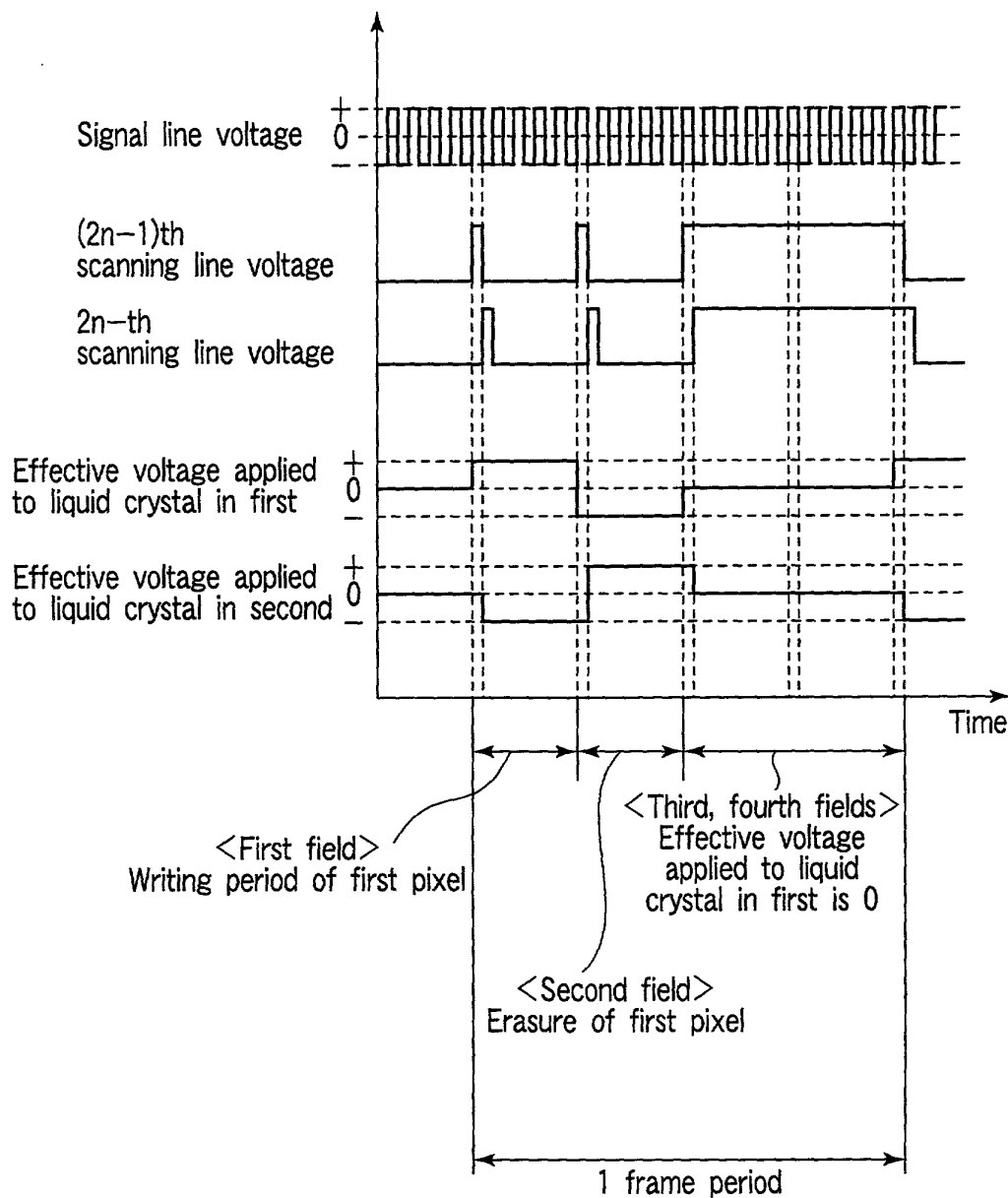


FIG. 39

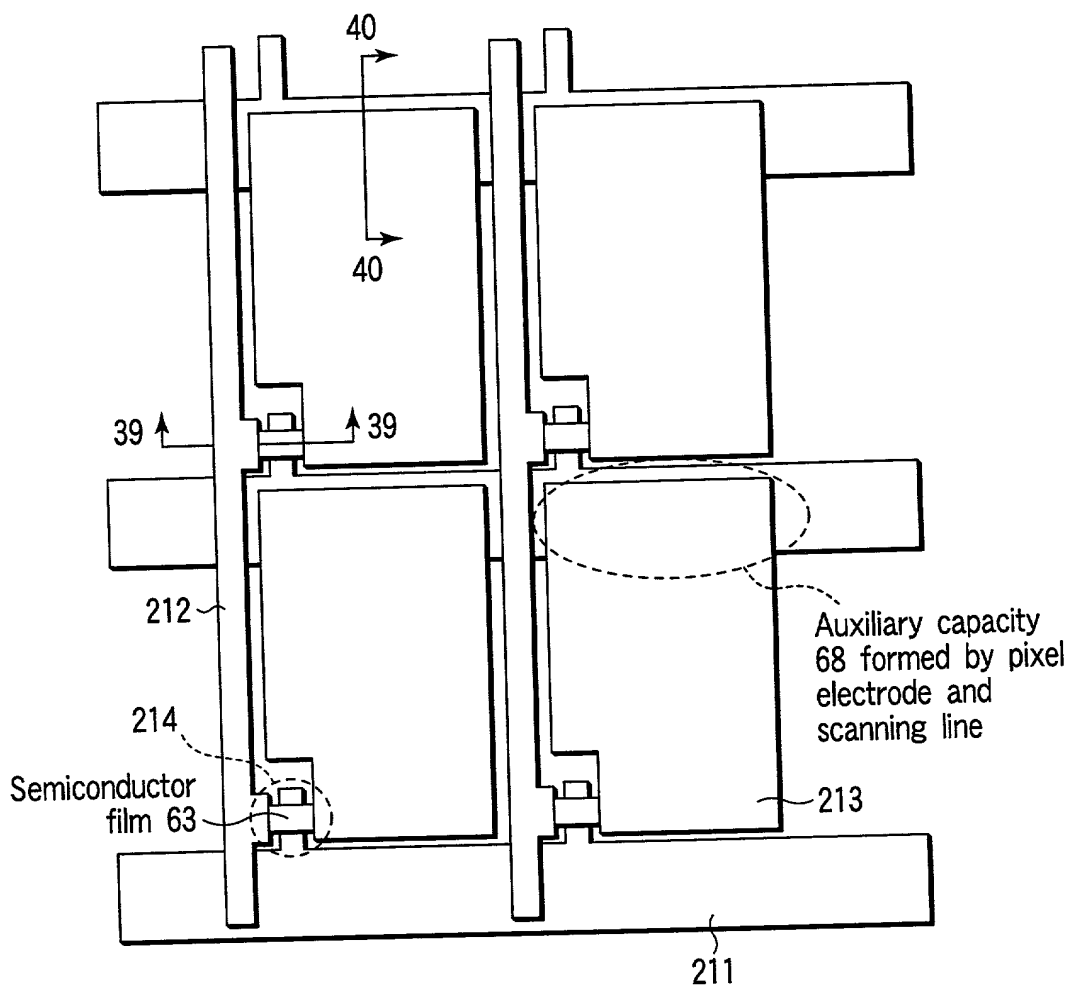


FIG. 40

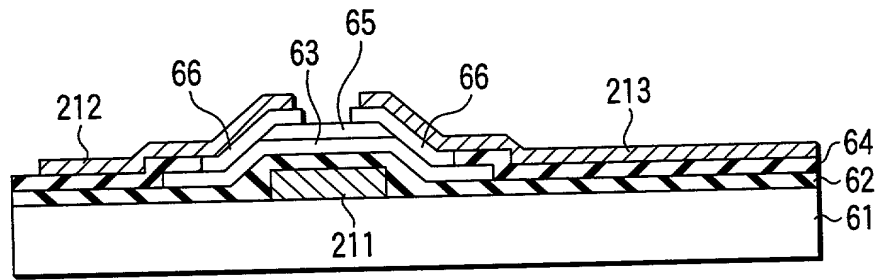


FIG. 41

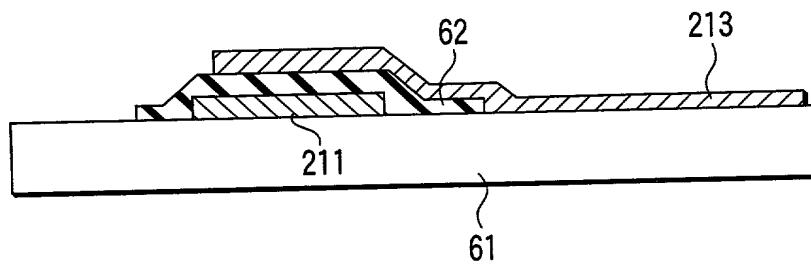


FIG. 42

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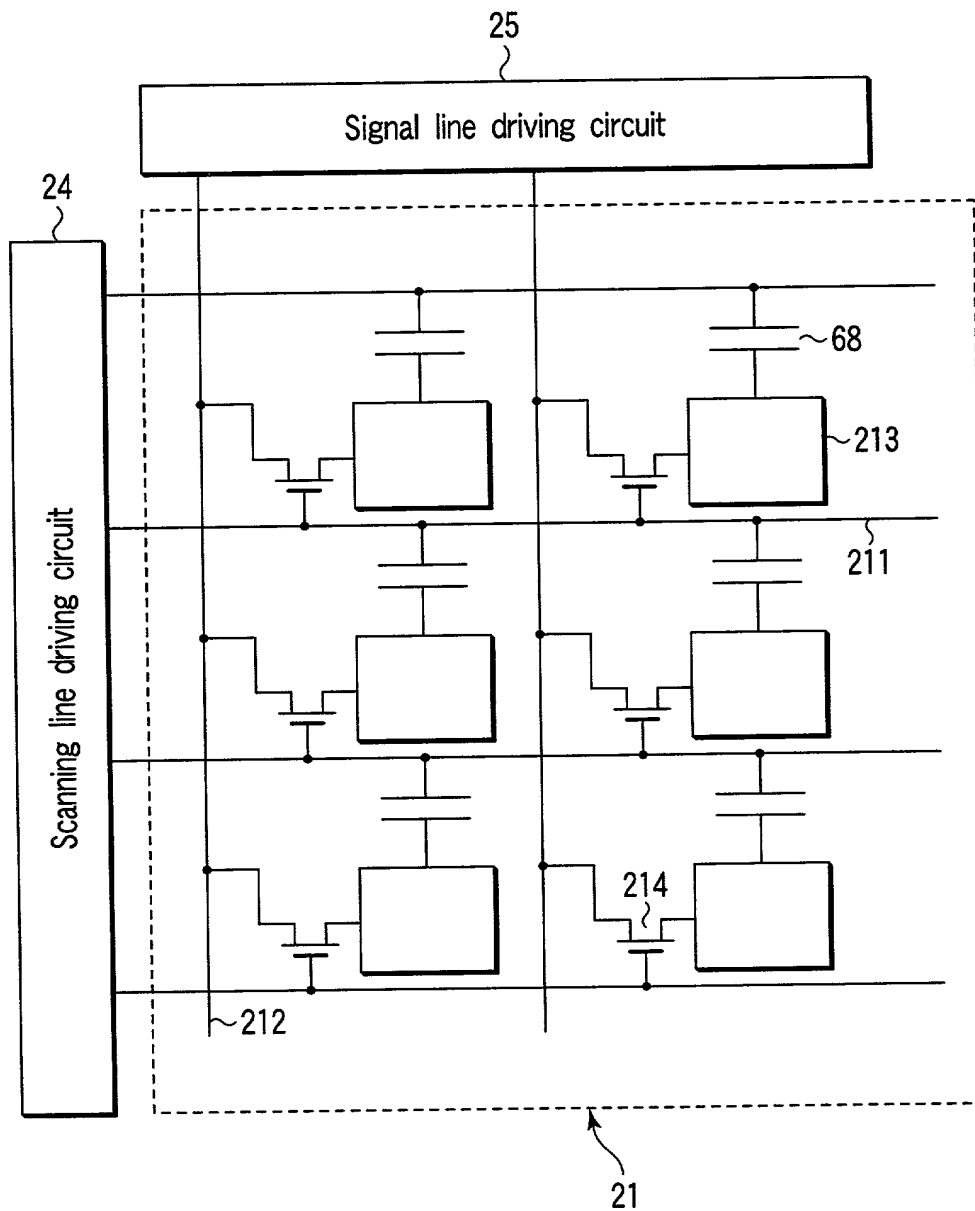


FIG. 43

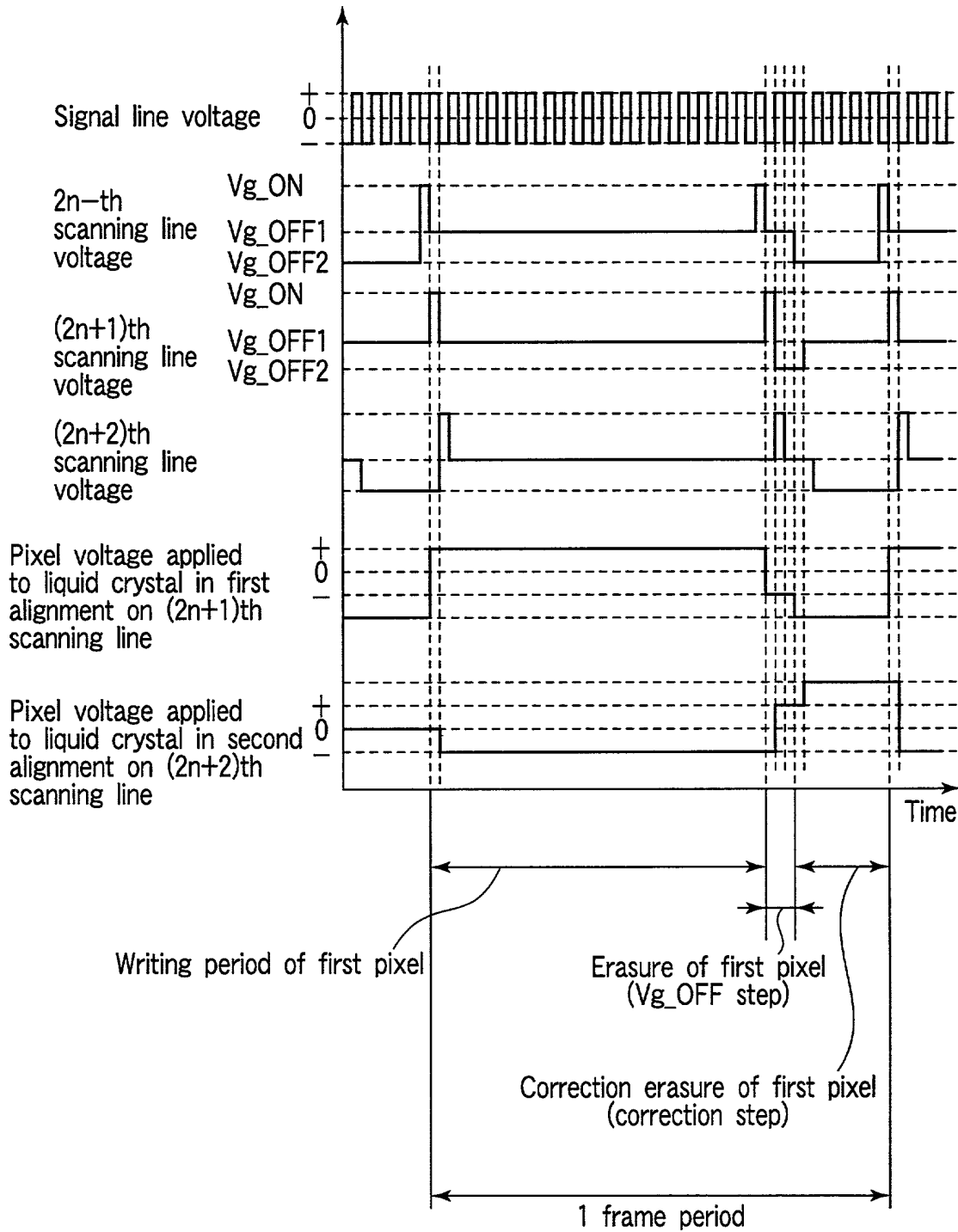


FIG. 44

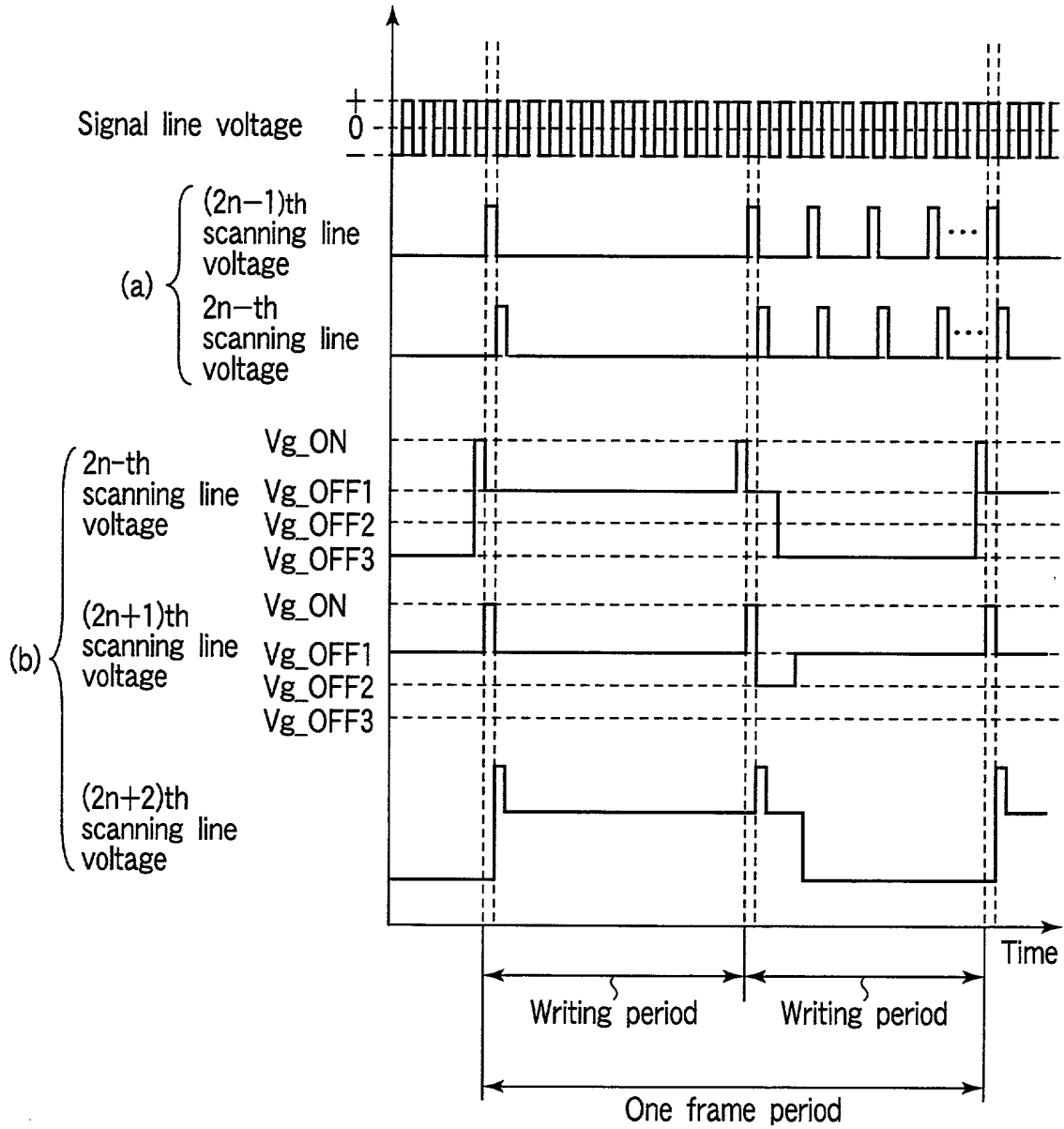


FIG. 45

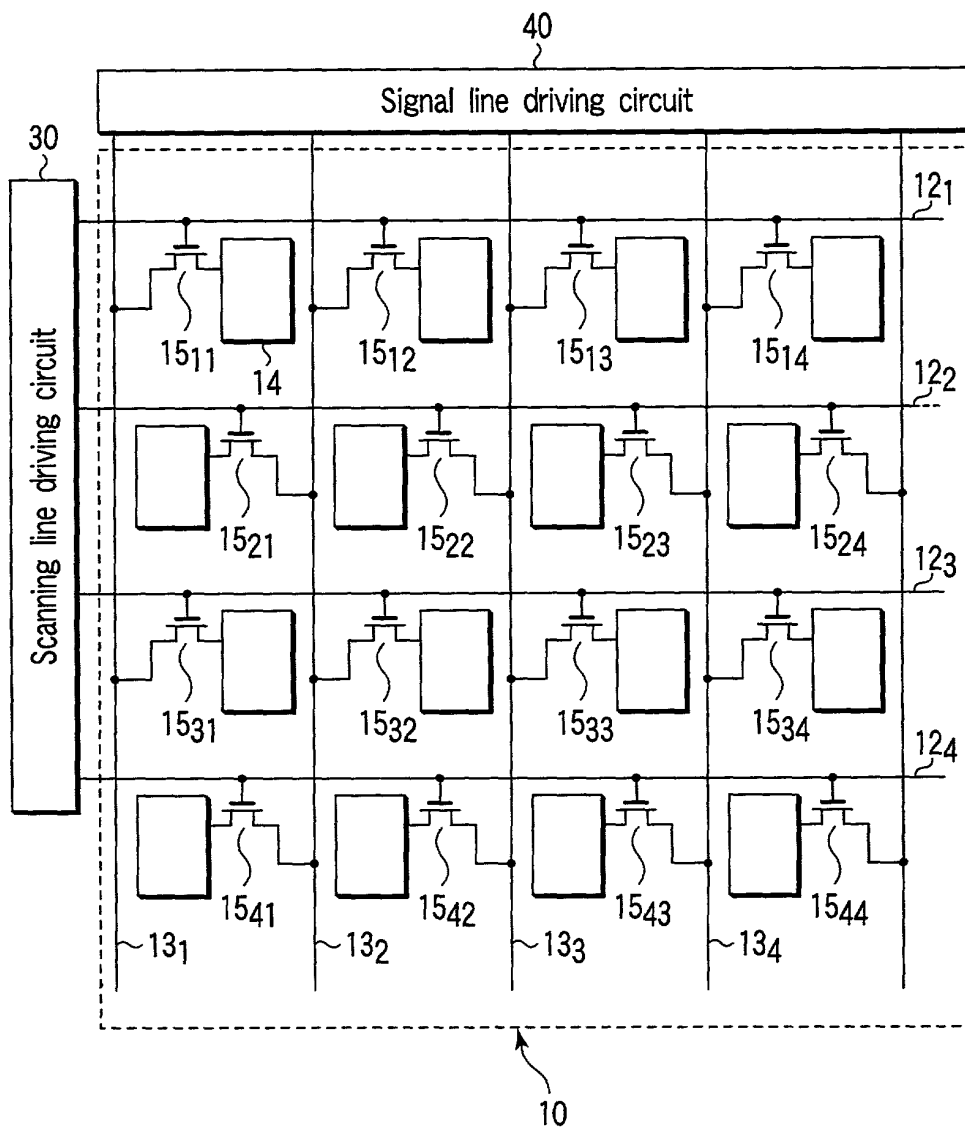


FIG. 46

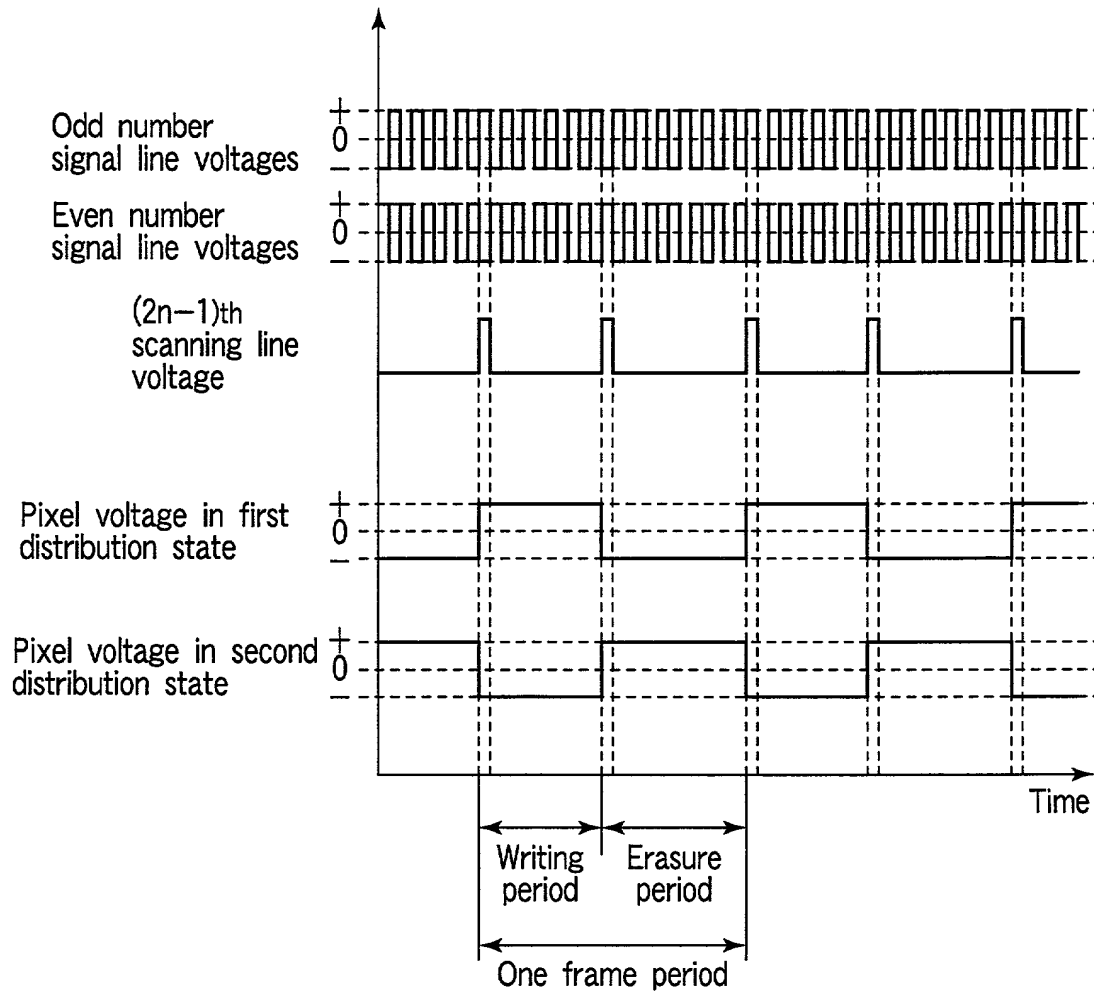


FIG. 47

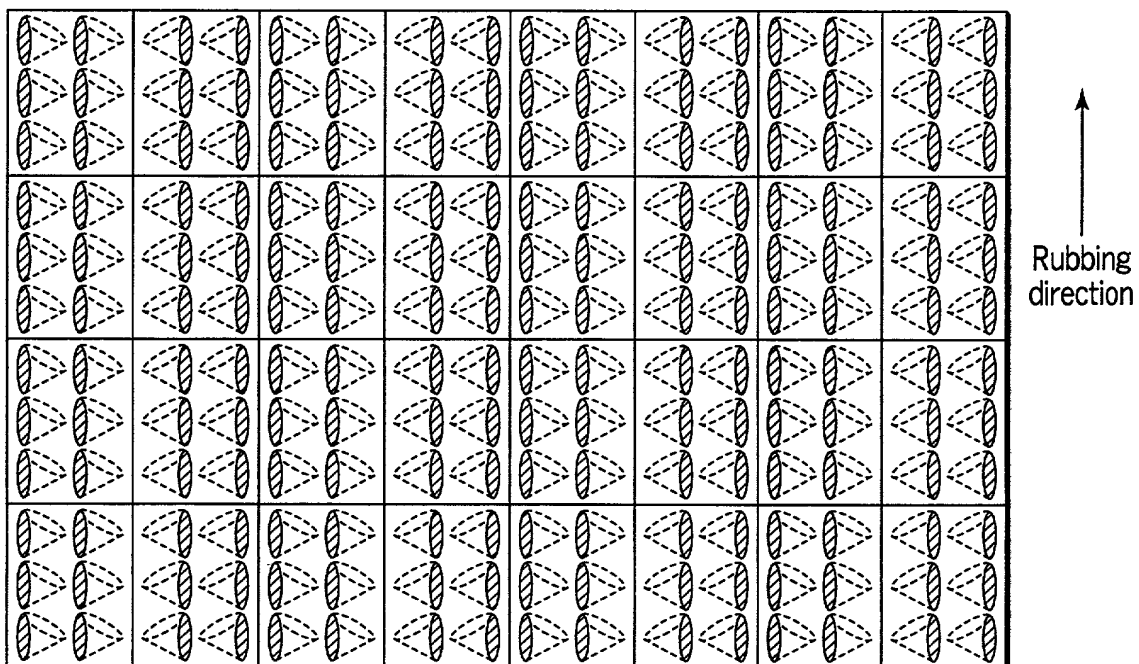


FIG. 48